```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OM nucleic - nucleic search, using sw model
                  Pred. No.
                                                         is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     November 17, 2002, 10:42:22; Search time 2773 Seconds (without alignments)
14745.562 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2054640 segs, 14551402878 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IDENTITY_NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd.
                                                                                                                     gb_ba:*
gb_in:*
gb_in:*
gb_in:*
gb_on:*
gb_ov:*
gb_ov:*
gb_pi:*
gb_pi:*
gb_pi:*
gb_pi:*
gb_y:*
gb_sts:*
gb_sy:*
gb_sts:*
gb_sy:*
gb_sts:*
gb_sts:*
gb_sts:*
gb_on:*
gb
the number of results predicted by chance to have a
                                                    em_htgo_hum:*
em_htgo_mus:*
em_htgo_other:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4109280
                                                                                                                                               RESULT 1
BC000905
LOCUS
DEFINITIO
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                         RE
```

Database

Searched:

Scoring table:

Run on:

score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

4444 5443 5443	C 3354	0 0 0 2 2 2 2 2 2 2 5 4 5 4 5 4 5 4 5 4 5 4 5	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Result
	345.	n O	44.	1103.6 1052.6 1052.6 1044 1013.2 955 817.6 817.6 687.6 687.6 688.6 684.4 684.6 682.6	1 1 2
55.50	,667774	00011225669		700 700 700 700 700 700 700 700 700 700	i i de
				1244 1144 1208 1208 151988 151988 151988 151988 151988 151988 151988 15198 151	
4 ro 4 4 ro r	, a a a a o	V C O C C C C C C C C C C C C C C C C C	04440 00440	00 00 00 00 00 00 00 00 00 00 00 00 00	: 6
AF22773 AX30301 AF39847 AF39847 AF39847 AF39847	AC109434 AF398473 AF233389 AF227733 AF233388 AF233388		AC09935 CFRAB1 AC02380 RNU630 AX39615 HUMRAB1 AC09441 AF39847 AC09634	ACOL ACOL ACOL ACOL ACOL ACOL ACOL ACOL	ID
6 Sarcophi 7 Sequence 2 Elephas 0 Rhinolop 7 Taeniopy 7 Sequence		1 Rattus 2 Rattus 3 Rattus 5 Rattus 5 Rattus	4 Rattus n Canine rab Canine rab 7 Mus musc Rattus n 9 Sequence Homo sapie 1 Rattus n 4 Bos taur	: R	cription

C000905	
ocus	BC000905 1433 bp mRNA linear PRI 12-JUL-2001
EFINITION	Homo sapiens, RAB1, member RAS oncogene family, clone MGC:5233
	IMAGE: 2900705, mRNA, complete cds.
CCESSION	BC000905
ERSION	BC000905.2 GI:14705268
EYWORDS	MGC.
OURCE	Homo sapiens.
ORGANISM	Homo sapiens
	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
	Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
EFERENCE	1 (bases 1 to 1433)
AUTHORS	Strausberg, R.
TITLE	Direct Submission

1

480

445

```
REMARK
COMMENT
                    δÃ
                                                                                    Qy
                                                                                                                                   밁
                                                                                                                                                                 Ş
                                                                                                                                                                                                                  Ъ
                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                        Дb
                                                        дb
                                                                                                                                                                                                                                                                                                                           Qy
Db
                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                        302
                                                                                                                                       181
                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                          122
                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                     62
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1336;
                                                        GGTTGGAAAGTCTTGCCTTCTTCTTAGGTTTTGCAGATGATACATATACAGAAAAGCTACAT
                                                                                                                                                                                                                  CAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATCAA
                                                                                                                                   GTCCAGCATGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGACTCAGG
                                                                                                                                                                                                                                                                                              TTTGCTCTCCCGGAACAGCCTATCTCATTCCTTTCTTTCGATTACCCGTGGCGCGGAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Clone distribution: MGC clone distribution information can be four through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Series: IRAK Plate: 3 Row: k Column: 1 This clone was selected for full length sequencing because it passed the following selection criteria: matched mRNA gi: 4886442. Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
cDNA Library Preparation: Life Technologies, I
cDNA Library Arrayed by: The I.M.A.G.E. Consor
DNA Sequencing by: Baylor College of Medicine
Sequencing Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: villalon@bcm.tmc.edu.
Villalon, D.K., Luna, R.A., Hale, S.M., Huly
A.M., Holloway, M., Telford, B, Hodgson, A.,
Muzny,D.M., Gibbs,R.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NISA
NIH-MGC Project URL: http://mgc.nci.nih.gov
On Jul 12, 2001 this sequence version replaced
Contact: MGC help desk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (16-NOV-2000) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Web site: http://www.hgsc.bcm.tmc.edu/cdna/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Center code: BCM-HGSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     432
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /codon_start=1
/product="RaB1, member RAS oncogene family"
/protein_id="RaH00905.1"
/protein_id="RaH00905.1"
/db_xref="GI:12654175"
/translation="MSSMNPEYDYLFKLLIGDSGVGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGBSGVGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGBSGVGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLG"
/translation="MSSMNPEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Homo sapiens"
/db_xref="LocusID:5861"
/db_xref="Laxon:9606"
/clone="MGC:5233 IMAGE:2900705"
/tissue_type="Placenta, choriocarcinoma"
/clone_lib="NH_MGC_10"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="Vector: 179. .796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      86.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 1219; DI
Pred. No. 2.8e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               pCMV-SPORT6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 9;
.8e-187;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hulyk, S., 1, A., Bouck,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gies, Inc.
Consortium (LLNL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 1433;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gi:12654174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          , J., 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                    97;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Garcia,
, W.,
                                                          300
                                                                                                301
                                                                                                                                     240
                                                                                                                                                                           241
                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   found
                                                                                                                                                                                                                                                                                                                                                                                                                                                    2
  đ
                        δÃ
                                                                            В
                                                                                                     δÃ
                                                                                                                                                       В
                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                    д
                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                               뮍
                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                         Вb
                                                                                                                                                                                                                                                                                                                                                                                                                            Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            БР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
    1381
                                                                                                                                                                                               1166
                                                                                                                                                                                                                                      1201
                                                                                                                                                                                                                                                                                                                                                                                             1081
                                                                                                                                                                                                                                                                                                                                                                                                                                    986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                            TCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTGTGTGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGAGGTTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGCAAC
GAGTTATAAATGGAAAGATTACACTATCTGATTAATAGTTTCTTCATACTCTGCATATAA
                                                                                                                                                                                                                                                        CATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCTGATTTGCTAGTTCTTCCTTGTA
                                                                                                                                                                                                                                                                                                                                     TGGTTAGAATATATTTTGTTTTGATGTTTATATTTGGCATGTTTAAGATGTCAGGTTTTAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTIGCTGATICCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGAATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGTTAAACAGTGGCTGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAACAAATTGTT
                                                                                                                                                         GAGTTATAAATGGAAAGATTACACTATCTGATTAATAGTTTCTTCATACTCTGCATATAA
                                                                                                                                                                                                                                  CATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCTGATTTGCTAGTTCTTCCTTGTA
                                                                                                                                                                                                                                                                                                                                                                                             TGGTTAGAATATTTTGTTTTGATGTTTATATTGGCATGTTTAGATGTCAGGTTTAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGAGGAGCCCATGGCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAATAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGCACAATTGGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATCAA
                                        TGGAGGTTGCTGAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGTTAAACAGTGGCTGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAACAAATTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTTCAAATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACCTCCAGTTATTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGTCCTTCAATAA
                                        1338
```

1165

1105 1200

1320 1285

1380

1080

1020

900 900 865 960 925 565 5660 660 625 720 780

840

985

1045

Query Match Best Local Matches 122 Qy 1 AAG Db 14 AAG Qy 60 CGT Qy 60 CGT Db 74 CGT Qy 120 AGT	CDS BASE COUNT	TITLE JOURNAL REFERENCE AUTHORS TITLE JOURNAL COMMENT COMMENT STATURES FEATURES	RESULT 2 AKO55927 LOCUS DEFINITION ACCESSION VERSION VERSION KEYWORDS SOURCE ORGANISM REFERENCE AUTHORS
/ Match 78.5%; Score 1103.6; DB 9; Length 2257; Local Similarity 92.4%; Pred. No. 1.2e-168; Pred. No. 1.	/Organism="nomo sapiens" //db_xref="taxon:966" //clone="NB941000135" //cell_line="NB941000135" //cell_tine="NB94100135" //cell_tine="NB941" //note="loning vector: pME18SFL3" 194. 619 //note="unnamed protein product" //codon_start=1 //protein_id="BAB71048.1" //db_xref="G:16550778" //translation="MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFAESFNNVKOWLOE IDRYASENVNKLLVONKCOLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFM TMAAEIKKRMGPGATAGGAEKSNVKIQSTPVKQSGGGCC" TMAAEIKKRMGPGATAGGAEKSNVKIQSTPVKQSGGGCC" TMAAEIKKRMGPGATAGGAEKSNVKIQSTPVKQSGGGCC"		AKO55927 AKO55927 AKO55927 AKO55927 AKO55927 AKO55927 Oligo capping; fis (full insert sequence). AKO55927 Oligo capping; fis (full insert sequence). Homo sapiens neuroblastoma cell_line.NB9 cDNA to mRNA, Clone_lib.NB9M41 clone:NB9M41000135. Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Homo sapiens Clone_lib.NB9M41 clone:NB9M41000135. Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Homo sapiens Clone_lib.NB9M41 clone:NB9M41000135. Homo sapiens Clone_lib.NB9M41000135. Homo sapiens Clone_lib.NB9M41000135. Homo sapiens Eucherlib.NB9M41000135. Homo sapiens Eucherlib.NB9M4100135. Homo sapiens Eucherlib.NB9M4100135. Homo sapiens Eucherlib.NB9M4100135. Homo sap
0 b 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		D	D
1020 GGCATGTTTANATICICANGILLANGICT TO GANAGICANGITATICITACIANA 1079	ACTGTATGI	480 GTRGTAGACCTRCACACACCGAAGGAATTTGCTCATTCCTTGAATTCCGTTTTTTGAA 539	

6;

```
REMARK
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 3
BC002077
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                             BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1118
                                                                                                                                                                              CDS
                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTATGTAACAAAACAACTGAAGATATGTTTAATAAATATTGTACTTATTGGAAGTAAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAAA 1323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTATGTAACAAAACAACTGAAGATATGTTTAATAAATATTGTACTTATTGGAAGTAATAT 1237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATAGTTTCTTCATACTCTGCATATAATTTGTGGCTGCAGAATATTGTAATTTGTTGCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BC002077
Mus musculus, RAB1, mo
IMAGE:3592802, mRNA, o
BC002077
                                                                                                                                                                                                                                                                                                                                       Clone distribution: MGC clone distribution information of through the I.M.A.G.E. Consortium/LLLT at: http://image.series: IRAK Plate: 11 Row: a Column: 2
This clone was selected for full length sequencing becaupassed the following selection criteria: matched mRNA gi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Sequencing Group at the Stanford Human Center, Stanford University School of Medicine, Stanford,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission
Direct Submission
Submitted (31-JAN-2001) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Gilbert Smith,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NIH-MGC Project URL:
Contact: MGC help des
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Strausberg, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                        Dickson,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BC002077.1 GI:12805232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nouse mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1241
                                          412
                                          ىم
                                                                                                                                                                                                      /clone="MGC:6226 IMAGE:3592802"
/tissue_type="Mammary tumor. Metallothionien-TGF alpha model. 10 month old virgin mouse. Taken by biopsy." /clone_lib="NCI_CGAP_Maml" /lab_host="DH10B"
                                                                  /db_xref="LocusID:5861"
/translation="MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTI
GVDFXIRTIELDGKTIKLQIMDTAGOERFRTITSSYYRGAHGIIVVLDVTDQESENNV
KQWLQEIDRYASENVNKLLVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATN
                                                                                                                                                                                                                                                                          /db_xref="taxon:10090"
/map="FVB/N"
                                        VEQSFMTMAAEIKKRMGPGATAGGAEKSNVKIQSTPVKQSGGGCC"
270 c 342 g 420 t
                                                                                                                      /product="RAB1, member RAS
/protein_id="AAH02077.1"
/db_xref="GI:12805233"
                                                                                                                                                               /codon_start=1
                                                                                                                                                                                           /note="Vector:
                                                                                                                                                                                                                                                                                                      /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                      http://www-shgc.stanford.edu
(Dickson, Mark) mcd@paxil.stanford.edu
M., Schmutz, J., Grimwood, J., Rodrique
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus 1_to 1444)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1444 bp
RAB1, member RAS onc
, mRNA, complete cds.
                                                                                                                                                                              . 813
  74
  98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              desk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          http://mgc.nci.nih.gov
 Score
                                                                                                                                                                                           PCMV-SPORT6
1052.6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          oncogene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ph.D.
                                                                                                                                                  oncogene
DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                      Rodriquez,
10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            family,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear KU
amily, clone
                                                                                                                                                    family"
Length
                                                                                                                                                                                                                                                                                                                                                        because
                                                                                                                                                                                                                                                                                                                                                                                                                                        Α.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ROD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MGC: 6226
                                                                                                                                                                                                                                                                                                                                                                                                  can
                                                                                                                                                                                                                                                                                                                                                                                                                                         and
                                                                                                                                                                                                                                                                                                                                                                                    .llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Genome
CA 94305
                                                                                                                                                                                                                                                                                                                                            6679586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1319
                                                                                                                                                                                                                                                                                                                                                                                                  be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1177
                                                                                                                                                                                                                                                                                                                                                                                                                                        Myers,
                                                                                                                                                                                                                                                                                                                                                                                                  found
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                        В
                                                            QΥ
                                                                                             밁
                                                                                                                     δÃ
                                                                                                                                                  В
                                                                                                                                                                       δÃ
                                                                                                                                                                                                      БР
                                                                                                                                                                                                                                Ωy
                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
            δõ
                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 88. Matches 1256; Conservative
               933
                                          985
                                                                                                                                                    866
                                                                                                                                                                                                                                  694
                                                                                                                                                                                                                                                                                       634
                                                                                                                                                                                                                                                                                                                   686
                                                                                                                                                                                                                                                                                                                                                                       626
                                                                                                                                                                                                                                                                                                                                                                                                514
                                                                                                                                                                                                                                                                                                                                                                                                                           566
                                                                                                                                                                                                                                                                                                                                                                                                                                                     454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     310
                                                                                                                                                                                                                                                             746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   136
                                                                                                                                                                             754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16
              88.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        No. 1.9e-160;
smatches 59;
```

```
GTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                     CTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGCAACAGCTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCGGCAGCAAGGGC-----GGCGGTGGCGGCGGCGGCGGCAGCTGCAGTGACATGTCCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCGGCGGCTGCTGATTGTGTTCTAGGGGACGGAGTAGGGGAAGACGTTTGCTCTCCCGGA
                       ACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTGTGGTGCTGGTTTATAA
                                                                              TGAAAAAACAGAAATTGCCTGAATTGTACTGTATGTAGCTGCACTACAACAGATTCTTACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACAAATGTGATCTGACCACAAAGAAAGTAGTAGTAGACTACACAACAGCGAAGGAATTTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATCAAGCTTCAAA 369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGTCTTGCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTACATCAGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGATTCTGGGGGTTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGACTCAGGGGTTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCGGCGGCTGCTGATTGTTGTTCTAAGGGTCGGAGT-GGGGTCGACGTTTGCTCTACCGGA
GCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAATCTGAACCCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTCCCTTGGAATTCCATTTTTGGAAACCAGTGCTAAGAACGCAACGAATGTAGAACAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGAATGTAGAACAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGTGGCTGCAGGAGATAGATCGCTACGCCAGTGAAAATGTCAACAAGTTGTTGGTAGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGTGGCTGCAGGAAATAGATCGTTATGCCCAGTGAAAATGTCAACAAATTGTTGGTAGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCCATGGCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAATAACGTTAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACTTCCAGTTATTACAGAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TA-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTGGTGTGGATTTCAAGATACGAACTATAGAGTTAGATGGGAAAACAATCAAGCTACAGA
                                                                                                                                                                   TGAAAAAACAAAATTGCCTGAATTGTACTGTATGTAGCTGCACTACAACAGATTCTTACC
                                                                                                                                                                                                                                                   GCTGCTAAAATCTGCCTCCGTCCTTTTCTCACAGCAATGAATTCGCAATCTGAACCCAAG
                                                                                                                                                                                                                                                                                                                                    GTGCCGAGAAGTCCAATGTTAAAATCCAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                  CTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCTGGAGCTACAGCTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACAAATGTGACCTGACCACAAAGAAAGTAGTAGACTACACAACAGCAAAGGAATTTGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGTCCTGCCTTCTCCTTAGGTTTGCAGATGATACGTATACGGAAAGCTACATCAGCACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -GAGTCCTTCAATAATGTTAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
    1044
                                                                                                                                                                                                                                                                                                                                                                            693
                                                                                                                                                                                                                                                                                                                                                                                                                                                           633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        85
                                                                                    984
                                                                                                                             872
                                                                                                                                                                                                           813
                                                                                                                                                                                                                                                   865
                                                                                                                                                                                                                                                                                            753
                                                                                                                                                                                                                                                                                                                                    805
                                                                                                                                                                                                                                                                                                                                                                                                                    745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           385
```

밁

```
JOURNAL
PUBMED
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 4
HSM800023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1402
  gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1165
                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1105 AATATATTTTGTTTTGATGTTTATATTGGCATGTTTAGATGTTGGGTTTAGTCTTCTGAA 1164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAATGGAAAGATTACACTATCTGATTAATAGTTTCTTCATACTCTGCATATAATTTGTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAAGTTTAGTGAGACGTTATATGTAAGATCTGATTTGCTAGTTCTTCCTGGTAGAGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAAGTTTAGTGAGATGTTATATGTAAGATCTGATTTGCTAGTTCTTCCTTGTAGAGTTAT 1172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AATATATTTTGTTTTGATGTTTATATTGGCATGTTTAGATGTCAGGTTTAGTCTCTGAA 1052
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Martinsried, GERMANY

Clone from S. Wiemann, Molecular Genome Analysis, German Cancer Research Center (DKFZ); Email s.wiemann@dkfz-heidelberg.de; sequenced by AGOWA (Berlin/Germany) within the cDNA sequencing consortium of the German Genome Project.

This clone (DKFZ)564B163) is available at the RZPD in Berlin. Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059 Berlin-Charlottenburg, GERMANY; Email: clone@rzpd.de Further information about the clone and the sequencing project is availate this project is availated that the contact the contac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 1208)

Alemann, S., Well, B., Wellenreuther, R., Gassenhuber, J., Glassl Ansorge, W., Boecher, M., Bloecker, H., Bauersachs, S., Blum, H., Lauber, J., Duesterhoeft, A., Beyer, A., Koehrer, K., Strack, N., Mewes, H.W., Ottenwaelder, B., Obermaier, B., Tampe, J., Heubner, Wambutt, R., Korn, B., Klein, M. and Poustka, A. Toward a Catalog of Human Genes and Proteins: Sequencing and Analysis of 500 Movel Complete Protein Coding Human cDNAs Genome Res. 11 (3), 422-435 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens mRNA; cDNA
complete cds.
AL050268
                                                                                                                                                                                                                                                                                                                                                                                                                           2 (bases 1 to 1208)
Wambutt,R., Heubner,D., Mewes,H.W., Gassenhuber,J. and Wiemann,
Direct Submission
Direct Submission
Submitted (10-MAR-1999) MIPS, Am Klopferspitz 18a, D-82152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AL050268.1 GI:4886442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HSM800023
/organism="Homo sapiens"
//db_xref="taxon:9606"
//db_cref="taxon:9606"
/clone="bkr2p5648163"
/tissue_type="brain"
/clone_lib="564"
/clone_lib="564"
/clone_lib="564"
/clone_lib="fe4 (synonym: hfbr2). Vector pAMP1; host
X1-2blue: sites NotI + SalI"
/dev_stage="fetal"
191. .580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; butheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1208 bp mRNA
DKFZp564B163 (from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gassenhuber, J., Glassl, Sauersachs, S., Blum, H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear PRI 10-MAR-2001
clone DKFZp564B163);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Heubner, D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        polyA_signal
polyA_site
BASE COUNT
ORIGIN
                                                   δÃ
                                                                                                   B
                                                                                                                                       Qy
                                                                                                                                                                                        밁
                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                             γ
                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 1197; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDS
                    599
                                                             720
                                                                                                        539
                                                                                                                                                 660
                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                 419
                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                     383
                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                          383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                 344 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /gene="DKFZp564B163"
191. .580
/gene="DKFZp564B163"
/note="Rab1, splice v.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      213 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               74.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
```

LOCUS

FEATURES

658

COMMENT

TITLE

밁 δÃ 뫄 δō 망 Q В Ş 밁 Q В Š

```
/db_xref="Sptrembl:Q9Y3T2"
/translation="MSSMNPBYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTI
GVDFKIFTIELDGKTIKLGLIEFADSIGJPFLETSAKNATNVEQSFMIMAABIKKRMGP
GATAGGABKSNVKIQSTPVKQSGGGCC"
                                                                                                                                                                                                   /product-"hypothetical protein"
/protein_id-"CAB43369.1"
/db_xref-"GI:4886443"
                                                                                                                                                                                                                                                      /codon_start=1
/product
                                                              372
Length 1208;
```

Ņ

11 AAGCGATAGCTGAGTGGCGGCGGCTGCTGATTGTGTTCTAGGGGAACAGAGTAGGGGAAGA 70 1 AAGCGATAGCTGAGT-GCGGCGGCTGCTGATTGTGTTCTAGGGGACGGAGTAGGGGAAGA 59 CAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGTTGCTGCTAAAATTTTGCCTCCATCCTTT AAAAAGCGAATGGGTCCCGGAGCAACAGCTGGTGGTGCTGAGAAGTCCCAATGTTAAAATT ACCAGTGCTAAGAATGCAACGAATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATT GTAGTAGACTACACAACAGCGAAGGAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAA 539 AAGCTTCAAATAGAGTCCTTCAATAATGTTAAACAGTGGCTGCAGGAAATAGATCGTTAT 419 ATCAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATC GGGGTTGGAAAGTCTTGCCTTCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTAC CGTTTGCTCTCCCGGAACAGCCTATCTCATTCCTTTTCTATTACCCGTGGCGCGGAG 119 CAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTT AAAAAGCGAATGGGTCCCGGAGCAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATT ACCAGTGCTAAGAATGCAACGAATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATT GCCAGTGAAAATGTCAACAAATTGTTGGTAGGGAACAAATGTGATCTGACCACAAAGAAA 479 AAGCTTCAAATA-----ATCAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATC GGGGTTGGAAAGTCTTGCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTAC ATGTCCAGCATGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGACTCA ATGTCCAGCATGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGACTCA Score 1044; DB 9; Pred. No. 4.7e-159; 0; Mismatches 0; Indels 133; Gaps 659 599 418 359 598 719 538 478 382 370 310 299 250 239 130

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                    KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                              DEFINITION ACCESSION
                                                                                                                                                                                                                                                                                                 RESULT
MMYPT1
LOCUS
                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                         D
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       β
δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   β Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                         FEATURES
                                                                                                                                                                                                                                                                    VERSION
                                                                                   JOURNAL
                                                                                                                                                                       JOURNAL
                      CDS
                                                               source
                                                                                                                                                                                                                                                                                                                                                         1199
                                                                                                                                                                                                                                                                                                                                                                                                                     1260
                                                                                                                                                                                                                                                                                                                                                                                                                                           1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATCTGATTTGCTAGTTCTTCCTTGTAGAGTTATAAATGGAAAGATTACACTATCTGATTA 1199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGCATGTTTAGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCCATTTTGTATCAAA 1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTGATACCAGACTGTTTCCCCGTGGTTGGTTAGAATATATTTTGTTTTGATGTTTATATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCTGATACCAGACTGTTTCCCGTGGTTGGTTAGAATATATTTTGTTTTGATGTTTATATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAAAAAAAA 1208
                                                                                                                                                                                                                                                                                                                                                                   AAAAAAAAAA 1329
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATAGTTTCTTCATACTCTGCATATAATTTGTGGCTGCAGAATATTGTAATTTGTTGCACA 1259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGCATGTTTAGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCCATTTTGTATCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AACTGTTTTAAACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                           ATAGTTTCTTCATACTCTGCATATAATTTGTGGCTGCAGAATATTGTAATTTGTTGCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCTGATTTGCTAGTTCTTCCTTGTAGAGTTATAAATGGAAAGATTACACTATCTGATTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGGTCAATACTGACTTTTTTTTTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAG
                                                                                                                 The
                                                                                                                      D-3400 Goettingen, FRG
2 (bases 1 to 1428)
Haubruck,H., Disela,C., Wagner,P. and
                                                                                                                                                 Direct Submission
Submitted (13-NOV-1987) Gallwitz D., Max-Planck-Institut
biophysikalische Chemie, Abt. Molekulare Genetik, Postfav
                                                                                                                                                                                                                                                                   MMYPT1
Mouse mRN?
Y00094
Y00094.1
                                                                                          The ras-related ypt1 protein is an isolation and sequence analysis of homologous to the yeast YPT1 gene
                                                                                                                                                                                                                         Eukaryota; Metazoa;
                                                                                                                                                                                                                                                        ras-related protein;
                                                                                                                                                                                                     (bases 1 to
                                                                                                                                                                                                                                      musculus
                                                                                   :
                                                                                                                                                                                                                                                                                         mRNA
                                                                                    σ
                    /organism="Mus musculus"
/db_xref="taxon:10090"
/cell_line="F9 and C3H10:
130. .747
/codon_start=
          /note="Ypt1 protein (AA 1-205)"
                                                                       (1987) In press
Location/Qualifiers
                                                                                                                                                                                                                                                                                         for
                                                                                                                                                                                                                                                                                    1428 bp
ras-related YPT1
                                                                                                                                                                                                                Chordata;
Rodentia;
                                                                                                                                                                                                                                                         YPT1
                                                                                                                                                                                                                                                         gene.
                               C3H10T1/2"
                                                                                                                                                                                                              Craniata; Ver
Sciurognathi;
                                                                                                                                                                                                                                                                                       protein
                                                                                                        mouse
                                                                                                                 ubiquitous
                                                                                                                                                                                                                                                                                                 mRNA
                                                                                                                            Gallwitz,
                                                                                                                                                                                                               Vertebrata;
thi; Muridae;
                                                                                                      itous eukaryotic protein:
cDNA clones highly
                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                           Postfach
                                                                                                                                                                                                                                                                                                   ROD
                                                                                                                                                                                                                Euteleostomi;
Murinae; Mus
                                                                                                                                                                                                                                                                                                   12-SEP-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1019
                                                                                                                                                                                                                                                                                                                                                                                                                                         1138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    778
```

```
BASE CO
                    Qy
                                              В
                                                                 Qy
                                                                                            В
                                                                                                           Qy
                                                                                                                                       뫄
                                                                                                                                                             δÃ
                                                                                                                                                                                     망
                                                                                                                                                                                                       Ω
                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                맑
                                                                                                                                                                                                                                                                                                 ΔÃ
                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ΩV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 1204;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         polyA_site
                                                                     677
                                                                                            663
                                                                                                                   617
                                                                                                                                          603
                                                                                                                                                                 557
                                                                                                                                                                                     543
                                                                                                                                                                                                            497
                                                                                                                                                                                                                                   483
                                                                                                                                                                                                                                                          437
                                                                                                                                                                                                                                                                                 423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  123
 783
                        737
                                               723
                                                                                                                                                                                                                                                                                                       377
                                                                                                                                                                                                                                                                                                                              363
                                                                                                                                                                                                                                                                                                                                                     372
                                                                                                                                                                                                                                                                                                                                                                           303
                                                                                                                                                                                                                                                                                                                                                                                                  353
                                                                                                                                                                                                                                                                                                                                                                                                                       243
                                                                                                                                                                                                                                                                                                                                                                                                                                              293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             w
                                                                                                                                                                                                                                                                               CTTCAATAATGTTAAACAGTGGCTGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACAATCAAGCTTCAAATA--
                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGCTACATCAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGACTCAGGGGTTGGAAAGTCTTGCCTTCTTCTTAGGTTTGCAGATGATACATATACAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCAGTCAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATT
                                                                                                        CGGAGCAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAA
                                                                                                                                                      AACGAATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCC
                                                                                                                                                                                    CGATTCTGGGGTTGGAAAGTCCTGCCTTCTCCTTAGGTTTGCAGATGATACGTATACGGA
                                              GCAGTCAGGTGGAGGCTGCTAAAATCTGCCTCCGTCCTTTTCTCACAGCAATGAATT
                                                                                             TGGAGCTACAGCTGGTGGTGCCGAGAAGTCCAATGTTAAAATCCAGAGCACTCCAGTCAA
                                                                                                                                          AACGAATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAAGCGAATGGGTCC
                                                                                                                                                                                                                                                          CAGTTATTACAGAGGAGCCCATGGCATCATAGTTGTGTATGATGTGACAGATCAGGAGTC
                                                                                                                                                                                                                                                                                                                                                                           AACAATCAAGCTACAGATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACTTC
                                                                                                                                                                                                                                                                                                                                                                                                                         AAGCTACATCAGCACAATTGGTGTGGATTTCAAGATACGAACTATAGAGTTAGATGGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGAGTCAGGGCGGCGGCTGCGGCAGCAAG-----GGCGGCGGTGGCGGCGGCGGCAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /db_xref="GI:55457"
/db_xref="MGD:MGI:97842"
/db_xref="SMISS-PROT:P11476"
/translation="MSSMNPEYDYLFKLLIGDSGVGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGVGKSCLLLRFADDTYTESYISTI
GVDFKIRTIELDGKTIKLQUNDTAGQEKFRTITSSYYRGAHGIIVVYDVTDQESFNNV
KQMLQEIDTXASENVNKLLVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATN
KQMLQEIDTXASENVNKLLVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATN
KQMLQEIDTXASENVNKLYGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATN
KQMLQEIDTXASENVNKLYGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATN
KQSFMTMAAEIKKRMGPGATAGGAEKSNVKIQSTPVKQSGGGCC"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1401. .1406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="polyA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="pot.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     72.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  polyA signal"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 site"
324 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 1013.2; DB 10;
Pred. No. 4.4e-154;
0; Mismatches 58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                      -GAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                       436
                                                                                                                                                                 616
                                                                                                                                                                                                                                                           496
                                                                                                                                                                                                                                                                                  482
                                                                                                                                                                                                                                                                                                                                                                                                                                                352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              62
  842
                                                                                                                   676
                                                                                                                                          662
                                                                                                                                                                                        602
                                                                                                                                                                                                                                   542
                                                                                                                                                                                                                                                                                                                               422
                                                                                                                                                                                                                                                                                                                                                      376
                                                                                                                                                                                                                                                                                                                                                                                                   371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ū
```

밁

/Organism="Mus musculus" /Organism="Mus musculus" /Ob_xref="taxon:10090" 29646 /note="member of RAS oncogene family" /codon_start=1 /product="small GTP-binding protein RABIA" /protein_id="small GTP-binding protein RABIA" /product="small GTP-binding protein RABIA" /product="	Distaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Eukaryota; Metazoa; Chordata; Sciurognathi; Muridae; Murinae; Mus. PERENCE 1 (bases 1 to 2686) WIJG. and Dorn, G.W. II. WITHORS WUJG. and Dorn, G.W. II. WITHORS (bases 1 to 2686) WIJG. and Dorn, G.W. II. WITHORS WUJG. and Dorn, G.W. II. STITLE Direct Submission FOURNAL (19-JAN-2000) Internal Medicine, University of Clincinnati, 231 Bethesda Avenue, Cincinnati, OH 45267-0590, USA TURES Cincinnati, 231 Bethesda Avenue, Cincinnati, OH 45267-0590, USA TURES 1, 2686	DULT 6 226873 AF226873 AF226873.1 GI:6969621 IRCE Mus musculus.	1142 TGCAGTTTCCACGCATAAAGTTTAGGAAGACTATGTAAGTTATATGTAAGACTACTATGTTAGTTA	797 TACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGAC-T
Db 780 GTAAATGGTCAATACTGACTTTTTTTTTTTATTCCCTTGACTCAAGACCGCTAACTTCATT 839 Qy 895 TTCAGAACTGTTTTAAACCTTTGTGTGCTGGTTTATAAAATAATGATGTGTGAATCCTTGTT 954	656 ARTCAGAGCACTCCAGTCAAGCAGTCAAGTTGCTGCTAAAATTTGCCTCCATC	Db 421 GAAGTIGTAGACTACACACAGAAAGGAITTCCAGAATTCCATTGAATTCCATTTTT 480 Qy 536 GGAAACCAGTGCTAAGAATGCAACGAATGTAGAACAGTCCTTTCATGAACGCAGCTGA 595	Db 241 AAGATTTCGAACAATCACTTCCAGTTATTACAGAGGAGCCCATGGCATCATAGTTGTTGTA 300 Qy 372	Query Match Best Local Similarity 88.5%; pred. No. 1.1e-144; Best Local Similarity 89.5%; pred. No. 1.1e-144; Best Local Similarity 10.

REFERENCE AUTHORS TITLE JOURNAL REFERENCE AUTHORS TITLE JOURNAL

FEATURES Source

BASE COUNT

RESULT 6
AF226873
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM

망 Ş d So

QΥ β δ 24 24 24 25 26 27 27

5 g y

```
QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AC123143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1075
Chen, G., Chen, R., Chen, Z., Chowdhry, I., Christopoulos, C.
Cleveland, C.D., Cox, C., Coyle, M.D., Dathorne, S.R., David, R.,
Davila, M.L., Davis, C., Davy-Carroll, L., Dederich, D.A.,
Davila, M.L., Delyado, O., Denn, A.L., Ding, Y., Dinh, H.H.,
Delaney, K.R., Delyado, O., Denn, A.L., Ding, Y., Dinh, H.H.,
Douthwaite, K.J., Draper, H., Dugan-Rocha, S., Durbin, K.J.,
Earnhart, C., Edgar, D., Edwards, C.C., Elhaj, C., Escotto, M.,
Falls, T., Ferraguto, D., Flagg, N., Ford, J., Garza, N., Gill, R.,
Golsi, A., Gao, J., Garcia, A., Garner, T., Garza, N., Gill, R.,
Gorrell, J.H., Guevara, W., Gunaratne, P., Hale, S., Hamilton, K.,
Harris, C., Harris, K., Hart, M., Havlak, P., Hawes, A., Hernandez, J.,
Hernandez, O., Hodgson, A., Hogues, M., Holloway, C., Hollins, B.,
Hernandez, O., Hodgson, A., Hogues, M., Holloway, C., Hollins, B.,
Harris, C., Harris, K., Hart, M., Havlak, P., Hawes, A., Hernandez, J.,
Homs, F., Howard, S., Huber, J., Hulk, S., Hume, J., Jackson, L.E.,
Jacobson, B., Jia, Y., Johnson, R., Jolivet, S., Joudah, S.,
Karlsson, E., Kelly, S., Khan, U., King, L., Korvah, J., Kovar, C.,
Karlsson, E., Kelly, S., Khan, U., King, L., Korvah, J., Kovar, C.,
Karlsson, E., Lichtarge, O., Lieu, C., Liu, J., Liu, W., Loulseged, H.,
Lozado, R.J., Lu, X., Lucier, A., Lucier, R., Luna, R., Ma, J.,
Massey, E., Mawhiney, E., McLeod, M.P., Meador, M., Moryen, N.,
Moser, M., Neal, D., Newtson, J., Mewtson, M., Nguyen, A., Nguyen, N.,
Nguyen, N., Oviedo, R., Pace, A., Payton, B., Peery, J., Perez, L.,
Peters, L., Pickens, R., Primus, E., Pu, L.L., Quiles, M., Ren, Y.,
Rives, M., Rojas, A., Rojubokan, I., Shooshtari, N., Sisson, I.,
Sodergre, E., Scott, G., Shen, H., Shooshtari, N., Sisson, I.,
Sodergre, E., Scott, G., Shen, H., Shooshtari, N., Sisson, I.,
Sutton, A., Svatek, A., Tabor, P., Tamerisa, A., Tamerisa, N., Thomas, S.,
Usmani, K., Vasquez, L., Vera, V., Villalon, D., Vinson, R., Wang, O.,
Wang, S., Wang, O.,
Wang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GATTAATAGTTTCTTCATACTCTGCATATAATTTGTGGCTGCAGAATATTGTAATTTGTT 1254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTAAGATCTGATTTGCTAGTTCTTCCTTGTAGAGTTATAAATGGAAAGATTACACTATCT 1194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AATATCAAA 1265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAAAAAAAA 1323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GATTAATAGTTTCTTCATACTCTGCATATAATTTGTGGCTGCAGAATATTGTAATTTGTT 1199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTAAGATCTGATTTGCTAGTTCCTTGGTAGAGTTATAAATGGAAAGATTACACTATCT 1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCACACTATGTAACAA---AACTGAAGATATGTTTAATAAATATTGTACTTATTGGAAGT 1256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Muzny, D.M., Adams, C., Adio-Oduola, B., Ali-osman, F.R., Allen, C., Alsbrooks, S.L., Amaratunge, H.C., Are, J.R., Ayele, M., Banks, T., Barbaria, J., Benton, J., Bimage, K., Blankenburg, K., Bonnin, D., Bouck, J., Bowie, S., Brieva, M., Brown, E., Brown, M., Bryant, N.P., Buhay, C., Burch, P., Burkett, C., Burrell, K.L., Byrd, N.C., Carron, T.F., Carter, M., Cavazos, S.R., Chacks, J., Chavez, D., Charon, T.F., Carter, M., Cavazos, S.R., Chacks, J., Chavez, D., Charon, T.F., Carter, M., Cavazos, S.R., Chacks, J., Chavez, D., Charon, T.F., Carter, M., Cavazos, S.R., Chacks, J., Chavez, D., Charon, T.F., Carter, M., Cavazos, S.R., Chacks, J., Chavez, D., Charon, T.F., Carter, M., Cavazos, S.R., Chacks, J., Chavez, D., Charon, C., 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     151988 bp DNA linear FRattus norvegicus clone CH230-247B24, *** SEQUENCING ***, 50 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HTG;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Norway
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AC123143.2 GI:21693812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AC1231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HTGS_PHASE1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bryant, N.P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HTG 17-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Allen,C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
```

```
Baylor
On Jul
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (17-JUL-2002) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (29-MAY-2002) Human Genome Sec
of Molecular and Human Genetics, Baylor
Baylor Plaza, Houston, TX 77030, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Williams,G., Williamson,A., Wleczyk,R., Wooden,S., Worley,K., Wu,C., Wu,Y., Wu,Y.F., Zhou,J., Zorrilla,S., Nelson,D., Weinstock,G. and Gibbs,R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Worley, K.C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Worley, K.C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                             as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                        arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (see http://www.hgsc.bcm.tmc.edu/docs/Genbank_draft_data.html).
NOTE: This is a 'working draft' sequence. It currently
consists of 50 contigs. The true order of the pieces
is not known and their order in this sequence record is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NOTE: Estimated insert size may differ from sequence length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Jul 4, 2002 this sequence version replaced gi:21239895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (bases 1 to 151988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (bases 1 to 151988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Assembly program: Phrap: version 0.990339 consensus quality: 108541 bases at least Consensus quality: 113010 bases at least Consensus quality: 115635 bases at least
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequencing vector: Plasmid; Chemistry: Dye-terminator Big Dye:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Center project name: GMGF
Center clone name: CH230-247B24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Web site: http://www.hgsc.bcm.tmc.edu/Contact: hgsc-help@bcm.tmc.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Center code: BCM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Center: Baylor College of Medicine
14688
14788
16152
16252
18134
18234
19866
                                                                                                    13493
13593
                                                                                                                                \frac{11848}{11948}
                                                                                                                                                            3832
3932
5617
5717
6733
6833
8190
8290
8290
82911
9411
10655
10755
                                                                                                                                                                                                                                                                                                                                                                  1042
1142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submission
                                                                                                                                                                                          1065
                                                                        1615
                19865
                                           18133:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Project Information
                                                                                                 gap of contig gap of contig
gap of
contig
gap of
                                          gap of
contig
                                                                       gap of
contig
                                                                                                                                                             gap of contig
                                                                                                                                                                                          gap of contig
                                                                                                                                                                                                                    gap of contig gap of contig gap of contig gap of contig
                                                                                                                                                                                                                                                                                                         gap of contig
                                                                                                                                                                                                                                                                                                                                     gap of contig
                                                                                                                                                                                                                                                                                                                                                                    contig
                                                                                                                                                                                                                                                                                                                                                                                gap of
                                                                       unknown
of 1364
                                                                                                    unknown
of 1095
                                                                                                                               unknown
of 1545
                                                                                                                                                                                        of 1144
             of 1632
                                          of 1882
                                                                                                                                                            of 1093
                                                                                                                                                                                                                       of 1121
                                                                                                                                                                                                                                                 of 1357
                                                                                                                                                                                                                                                                             of 1016
                                                                                                                                                                                                                                                                                                            of 1685
                                                                                                                                                                                                                                                                                                                                       of 1090
                                                                                                                                                                           unknown
                                                                                                                                                                                                                                    unknown
                                                                                                                                                                                                                                                                                                                                                      unknown
                                                                                                                                                                                                                                                                                                                                                                    of 1500
                                                                                                                                                                                                                                                                                                                                                                                                 of 1041
                                                                                                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                                                              unknown
                                                                                                                                                                                                                                                                                                                           unknown
                                                                                                                                                                                                                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Genome Sequencing Center, Department cs, Baylor College of Medicine, One
                                                                                                                             length
bp in l
            bp in
                                                                                                                                                                                                                                                                             ď
                                          bp in
                                                                                                                                                                                                                                                  bp in
                                                                                                                                                                                                                                                                                                                                        ut da
                                                                        length
bp in ]
                                                         length
                                                                                                                   length
                              length
                                                                                                                                                                           length
                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                 ength
                                                                                                                                                                                                                                                                                                                           ength
                                                                                                                                                                                                                                                                                                                                                                                 ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0.990329
                                                                                                                                                                                                        ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         least Q40
least Q30
least Q20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100% of reads
                                                                                                                                                                                                                                                                                                            in length
                                                                       length
                                                                                                                                                                                        length
                                          length
                                                                                                    length
                                                                                                                               length
                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                                               length
               length
                                                                                                                                                            length
                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                        length
```

length

10;

TOWN MACCAS MOTOGRASS	38 38 38	1494 bp	contig of 4054	contig of 5823 bp	contig of 5345	contig of 5631	contig	contig of 3971 l	contig of 6492 l	contig of 7222	gap of unknown length contig of 3456 bp in length	contig of 3614	gap of unknown length contig of 3911 bp in length	gap of contig	gap of unknown length contig of 2999 bp in length	gap of contig	gap of unknown length contig of 2546 bp in length	gap or contig	gap of unknown length contig of 2934 bp in length	contig of 3401	gap of unknown length contig of 3414 bp in length	gap of unknown length contig of 4946 bp in	gap of unknown length contig of 2970 bp in length	gap of unknown length contig of 1916 bp in length	gap of unknown length contig of 3118 bp in	gap of unknown length contig of 2991 hp in length	contig of 1559 bp in length gap of unknown length	contig of 1812 gap of unknown	contig of 2397 gap of unknown	gap of unknown length contig of 1823 bp in length gap of unknown length	gap of unknown length contig of 2328 bp in length Qy	of 2128 bp in length of 1775 bp in length of 1775 bp in length	contig of 1037 bp in length gap of unknown length	gap of unknown length contig of 1873 bp in length gap of unknown length
	76822 GATTCTTACCGTTTTCAC-AAGGTCAGAGATTGT	/ 804 GATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGAC-TTTTTTTT 862	76762 TGAACCCGAGTGAAAAAAAACAATCTGCCTGAATTGTACTGTATGTA	744 TGAACCCAAGTGAAAAAACAAAATTGCCTGAATT	76702 GGTGGAGGTTGCTGCTAAAATCTACCAAAGTCCT	/ 684 GGTGGAGGTTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAATC 743	76642 ACAGCTGGTGCGGAGAAGTCCAATGTTAAAA	624 ACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCA 683	76582 GTAGAACAGTCTTTCATGACAATGGCCACGGAGATTAAAAAGCGAATGGGTCCTGGAGCA 76641	564 GTAGAACAGTCTTTCATGACGATGGCAGCTGAGA	76522 GAATTTGCAGATTCCCTTGGAATTCCATTTTTGG	504 GAATTTGCTGATTCCCTTGGAATTCCGTTTTTGG	76466 TTGGTAGGGAACACATGTGACCTGACAACA	444 TTGGTAGGGAACAAATGTGATCTGACCACAAAGA		y 384 AATGTTAAACAGTGGCTGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAACAAATTG 443	76346 TACAGAGGAAGCCATGTTATCATAGTTGTGTATGATGTGACCGACC	7 372GAGTCCTTCAAT 383	76286	7 360 AAGCTTCAAATA 371	76226 ATCAACATAATTGGTGTGGATTTCAAGATACGGACTAAAGAGCTAGAAGGGGAAAATAATC	300 ATCAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATC	76166 GGGTTGGAAAGTCTTGCCTTCTCTTAGGTTTGCAGATGTCACATATATGGAAAGCTAC	240 GGGGTTGGAAAGTCTTGCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTAC	76	70049 GCTTGGGGCGGCAGCTGCGTCAGAAAGGGCG	120 AGTCAGGGCGGCTGCGGCAGCAAGGGCGGCGGCGGCGGCGGCGGCAGCTGCAGTGAC	75989	60 CGTTTGCTCTCCCGGAACAGCCTATCTCATTCCT	75930 AAGCGATCACTGAGTGGTGGAGCTGCTGATTGT	1 AAGCGATAGCTGAGT-GCGGCGGCTGCTGATTGTGTTCTAGGGGACGGAGTAGGGGAAGA 59	Ouery Match 58.4%; Score 820.6; DB 2; Length 151988; Best Local Similarity 78.8%; Pred. No. 5.8e-123; Matches 1196; Conservative 0; Mismatches 114; Indels 207; Gaps 10		/db_xref="taxon:10116" /clone="CH230-247824" /se count 44145 a 28740 c 28161 q 43504 t 7438 others

21210 21310 223183 243283 243283 224529 226448 226448 226448 226448 226448 30951 309

FEATURES source

```
REFERENCE
AUTHORS
                                                                                                                                                            TITLE
JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 8
AC007318/c
                                                                                                                                                                                                                                                                                                                                                                               SOURCE
                                                                                                                                                                                                                                                                                                                                                                                              KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                           POCUS.
                                                                                                             TITLE
JOURNAL
                                                                                                                                                                                                                                                                                   AUTHORS
TITLE
                   JOURNAL
                                   TITLE
                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                            AUTHORS
                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                        MEDLINE
                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                        PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             77300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     77417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    76941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                76881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          77241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           77061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        77001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CATTATATGTAAGATCTGATTTGCTAGTTCTTCTTGGTAGAGATATAAAT-GAAAGATTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGTTTGTTAGAATATATTTGTTTTAATGTTTATATTGGCATGTTTAGATGTTGGGTTTA 77060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTGTGTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCGGAAGTAATATCAAA 77433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTGGAAGTAAAAAAAA 1323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CACTATCTGATTAATAGTTTCTTCATACTCTGCATATAATTTGTGGCCTGCAGAATATTGT 1246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTTATATGTAAGATCTGATTTGCTAGTTCTTCCTTGTAGAGTTATAAATGGAAAGATTA 1186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTTGGGGATTTAGCTCAGTGGTAGAGCGCTTGCCTAGCAAGCGCAAGGCCCCTGGGTTCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTTTGTATCAAACAGCACAAGCAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAGA 1126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCCCCAGCTCCGAAAAAAAAAAATAGATGTTGGGTTTAGTCTTCTGAAGATGAAGTTCAGCC 77180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGTTGGTTAGAATATTTTGTTTTGATGTTTATATTGGCATGTT-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTTTGTATCAAATAGCACAACCAGTGTCTGTCAGTTTCCATGCATAAAGTTTAGTGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                      204230 bp
Homo sapiens BAC clone RP11-420C9
AC007318
Direct Submission
Submitted (23-MAR-2001) Genome
University School of Medicine,
                                              MO 63108, USA
4 (bases 1 to 204230)
Waterston, R.H.
                                                                                           Direct Submission
Submitted (16-APR-1999) Genome
University School of Medicine,
                                                                                                                                                                                                                                                                   Toward a complete human genome sequence Genome Res. 8 (11), 1097-1108 (1998)
                                                                                                                                                                                                                                                                                                1 (bases 1 to 204230)
Sulston, J.E. and Waterston, R.
                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                              AC007318.4 GI:13435282
HTG.
                                                                                                                                          3 (bases 1 to 204230) Waterston, R.H.
                                                                                                                                                                                           The
                                                                                                                                                                                                         Wollam, A., Hawkins, M.,
                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                        9847074
                                                                                                                                                                                                                      (bases 1 to 204230)
                                                                                                                                                                                         sequence of Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----TAGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCC 1066
                                                                                                                                                                                      Kalicki,J., Hark apiens BAC clone
                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; Catarrhini; Hominidae;
 Sequencing Center, Washington 4444 Forest Park Parkway, St.
                                                                                           Sequencing Center, Washington 4444 Forest Park Parkway, St.
                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA
from
                                                                                                                                                                                         Harkins,R. and lone RP11-420C9
                                                                                                                                                                                                                                                                                                                                                                                                                                         2
                                                                                                                                                                                                                                                                                                                                                                                                                                        complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                         Lehnert, L.
                                                                                                                                                                                                                                                                                                                                               Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        07-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          77120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              76940
   Louis
                                                                                             Louis
```

밁 Ş В Q 밁 QY 망 Ş 밁 Q 밁 δÃ В δÃ В Q 밁 Qγ 밁

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
TITLE
                                                                                                                                   COMMENT
                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                         JOURNAL
                                                                                                              Submitted (07-NOV-2001) Department of Genetics, Washington University, 4444 Forest Park Avenue, St. Louis, Missouri 6. On Mar 23, 2001 this sequence version replaced g1:7630984.
                                                                                                                                                                                                                              Submitted (09-AUG-2001)
University, 4444 Forest
6 (bases 1 to 204230)
                                                                                                                                                                                                                                                                                     Waterston, R.
Direct Submission
                                                                                                                                                                                                                                                                                                                            5 MO
                                                                                                                                                                                          Direct Submission
                                                                                                                                                                                                            Waterston, R
                                                                                                                                                                                                                                                                                                                            (bases
Web site: http://genome.wustl.edu/gsc
Contact: sapiens@watson.wustl.edu
----- Summary Statistlcs
Center project name: H_NH0420C09
                                                                        Center: Washington University Genome Sequencing Center Center code: WUGSC
                                                                                                                                                                                                                                                                                                                                            USA
                                                                                                                                                                                                                                                                                                                          to 204230)
                                                                                                                                                                                                                                                 Department of Genetics, Washington Park Avenue, St. Louis, Missouri 6
                                                                                                                                                                                                                                                   63108,
                                                                                                                                                     63108,
                                                                                                                                                                                                                                                   USA
```

clone. It may be shorter because we only sequence overlapping clone sections once, or longer because we provide a small overlap between neighboring data submissions. This sequence may not represent the entire insert of this

This sequence was finished as follows unless otherwise noted: all regions were double stranded, sequenced with an alternate chemistry, or covered by high quality data (i.e., phred quality > 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by sequence from more than one subclone; and the assembly was confirmed by restriction digest.

MAPPING INFORMATION:

Mapping information for this clone was provided by Dr. John D. McPherson, Department of Genetics, Washington University, St. I MO. For additional information about the map position of this sequence, see http://genome.wustl.edu/gsc Louis

NEIGHBORING SEQUENCE INFORMATION:
The clone sequenced to the left is RP11-350H15; the clone sequenced to the right is ACO34121. Actual start of this clone is at base position 1 of RP11-420C9; actual end is at base position 204230 of SOURCE INFORMATION:
The RPCI-11 human BAC library was made from the blood of one male donor, as described by Osoegawa,K., Woon,P.Y., Zhao,B., Frengen,E., Tateno,M., Catanese,J.J. and de Jong,P.J. (1998) An improved approach for construction of bacterial artificial chromosome libraries. Genomics 51:1-8. The clone may be obtained either from Research Genetics, Inc. (http://www.resgen.com) or Pieter de Jong and coworkers at the Roswell Park Cancer Institute (http://bacpac.med.buffalo.edu) position 1 RP11-420C9 pBACe3.6

repeat_region source of PCR product from clone DNA. represents sequence of a single amplification of clone DNA. sequence RP11-420C9 from base position 44230 to 46506 consists PCR product from clone DNA. Base position 44700 to 44774 resents sequence of a single plasmid subclone derived from PCR /rpt_family="Alu" 890. .1082 /clone_lib="RPCI-11" 179. .486 /organism="Homo sapiens" /db_xref="taxon:9606" /clone="RP11-420C9" /map="2" /chromosome="2" Location/Qualifiers

repeat_region

/rpt_family="MER1_type" 1498. .1789

FEATURES

misc_feature	misc_feature	misc_feature	misc_feature	misc_feature	misc_feature	misc_feature	misc feature	misc feature	misc_feature	misc_feature	misc_feature	misc_feature	misc_feature	misc_feature	misc_feature	misc_feature	misc_feature	misc_feature	misc_reature	misc_feature	misc_reature	misc_reature		- 1			- 1		misc_reacure		repeat_region	repeat_region
/NOTE= SIMILAR TO EST AW350423 (NID:G10950191)" /note="Similar to EST AU125475 (NID:G10950191)"	.6275	.similar to EST AW391595 (NID:g6896254)" [6470]	"Similar to EST D20296 (N	similar to EST AA478834 (NID:g22074	similar to EST 6254	similar to EST AW205023	<u>.</u>	55966168 /note="similar to EST AI637917 (NID:g4690151) tt11h07.x1" 56086176	lar to EST	0919 FOR PIBOR705 (NIT) (75300061)	similar to EST A1079760 (NID:g3416011) 3935	<pre>/note="similar to EST AV725228 (NID:g10830405)" 54445599</pre>	5437 similar to EST AA130204 5335	lar to EST	5599 EST ATROSTS	similar to EST BF525934 5600 similar to EST AW131666	Similar to EST AI221036 5685	to EST BF575111 (NID:g11648823)"	40545006 /note="similar to EST AI278206 (NID:g3900474) q183d03.x1"	.4353 "similar to EST AI808181	41/84353 /note="similar to EST BF525934 (NID:g11613295)"	41/84353 /note="similar to EST AW960488 (NID:g8150172)"	41/84353 /note="similar to EST AW131666 (NID:g6133273) xf32h07.x1"	/note="similar to EST AA130204 (NID:g1691412) z129b02.r1"	/note="similar to EST AV725399 (NID:g10830748)"	/note="similar to EST AV725399 (NID:g10830748)"	/note="similar to EST T65650 (NID:g674695) yc76g03.rl"	/note="similar to EST F11955 (NID:g706276)" 3687 4148	/note="similar to EST AV725228 (NID:g10830405)" 3656 3006	3363642 /rpt_family="Alu"	2573 . 2874 /rpt_family="Alu"	/rpt_family="Alu" 21832483 /rpt_family="Alu"
Db 9736 TTTCCATGCATAAAGTTTAGTGAGATGTTATATGTGAGATCTGATTTGCTAGTTCTTCCT 9677	Qy 1102 TTTCCATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCTGATTTGCTAGTTCTTCCT 1161	9796 AGTCTTCTGAAGATGAAGTTCAGCCATTTTGTATCAAACAGCACAAGCAGTGTCTGTC	QY 1042 AGTCTTCTGAAGATGAAGTTCAGCCATTTTGTATCAAACAGCACAAGCCAGTGTCTCTCAC 1101	9856 TGGTTGGTTAGAATATATTTGTTTTGATGTTTATATTGGCATGTTTAGATGTCAGGTTT	982 TGGTTGGTTAGAATATATTTTGTTTTGATGTTTATATTGGCATGTTTAGATGTCAGGTTT	Qy 922 CIBOTTERIAAAATAAIGIGIGIAAICCTIGITGGTTGCCTGRIACCAGACTGTTTCCCG 981	010161117040011111010100071111001171001171001170011700117000111001170001	Qy 862 TTATTCCCTTGACTCAAGACAGCTAACTTCATTTTTCAGAACTGTTTTAAACCTTTGTGTG 921	Db 10036 CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTTT 9977	Oy 802 CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTTT 861	10096 TCTGAACCCAAGTGAAAAAACAAAATTGCCTGAATTGTACTGTATGTA	742 ТОТСААСОГААСТКАААААААСААААТТКООГКААТТКОТАТАТКТАКОСТКОСАСТАСТА	Qy 682 CAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGGCAATGAATTTGCAA 741	Db 10216 CAACAGCTGGTGGTGGTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAAGCAGT 10157	Qy 622 CAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGT 681	10276 ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAG	QY 562 ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAG 621	QY 502 AGGAARTINGCIGARICCCTIGGARITCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGA 561 Db 10336 AGGAARTINGCTGARTICCCTTTGGAAATCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGA 10277	Matches	2%; Score 817.2; DB 9; Length 204230; 6%; Pred. NO. 2.1e-122;	e="similar t	e="similar to EST AW5502838647	e="similar to EST AV6017478633	e="similar to EST AA2558578533	e="similar to EST AV703078 (NID:g10719408)" . 8251	e="similar to EST BE2/9/407920	8168	tamily="Alu"7596		/note="similar to EST AA825455 71307930	/note='	misc_feature 66636949 /note="similar to EST T07351 (NID:g318500)" misc_feature 68617787

```
BASE COUNT
ORIGIN
οy
                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 9
AL606522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                 Db 177379
                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
                                                                                                                                          Matches
                                                                                                                                                                                    Query Match
                                                                                                                                                               Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1222
                                                                                                                                                                                                                                                                                                                                                                                           source
       562
                                                                                                502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAAGCGAATGGGTCCCGGAG
                                              AGGAATTTGCAGATTCCCTTGGAATTCCATTTTTGGAAACCAGTGCTAAGAACGCAACGA 177438
                                                                                        AGGAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGA 561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATATGTTTAATAAATATTGTACTTATTGGAAGTAATATCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATAATTTGTGGCTGCAGAATATTGTAATTTGTTGCACACTATGTAACAAAACAACTGAAG 1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   corresponding to the overlapping clone, as we submit sequences with only a small overlap as described above.

This sequence was finished as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one M13 subclone; and the assembly was confirmed by restriction digest. The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases: Em: RMSE; Sw:, SWISSPROT; TT:, TREMBL; WP:, WORMPEP; Information on the WORMPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cambridgeshire, CB10 1SA, UK. E-mail enquiries:
humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk
On May 14, 2002 this sequence version replaced gi:19068263.
During sequence assembly data is compared from overlapping clones.
Where differences are found these are annotated as variations
together with a note of the overlapping clone name. Note that the
variation annotation may not be found in the sequence submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                          from the RPCI-23 Mouse PAC Library
constructed by the group of Pieter de Jong.
For further details see http://www.chori.org/bacpac/home.htm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (22-MAY-2002) Wellcome Trust Sanger Institute, Hinxton,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus 1 (bases 1 to 203071)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AL606522 203071 1
Mouse DNA sequence from clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        database can be found at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AL606522.6
                                                                                                                                                                                                                                                                                                                                                                                                                                       VECTOR: pBACe3.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      house mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              musculus
                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            //www.sanger.ac.uk/Projects/C_elegans/wormpep RP23-19L22 is
                                                                                                                                                                                                                                                                                                                       /organism="Mus musculus"
/db_xref="taxon:10090"
/chromosome="11"
                                                                                                                                                                                                                                                   /clone="RP23-19L22"
/clone_lib="RPCI-23"
44818 c 43421 g 57461
                                                                                                                                                                                                                                                                                                                                                                                                                Cocation/Qualifiers
                                                                                                                                                          52.8%;
96.2%;
                                                                                                                                       0;
                                                                                                                                                            Score 741.4;
Pred. No. 3.
                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp DNA
e RP23-19L22
                                                                                                                                                            .5e-110;
                                                                                                                                                                                    DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  o
B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9515
                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear ROI
chromosome
                                                                                                                                                                                    Length
                                                                                                                                                                                    203071;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ROD
                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11, complete
                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus
                                                                                                                                       u
۲۰
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                     VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                             RESULT 10
AL512349/c
                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вþ
                                  COMMENT
                                                                                                                                                                                      SOURCE
                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Db 177798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Db 177679
                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                LOCUS
                                                                              TITLE
JOURNAL
                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      177738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                177858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          177619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      177559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           177439
                                                                                                                                                                                                                                                                                                                                                          178155
                                                                                                                                                                                                                                                                                                                                                                                                                     178098 TATAATTTGTGGCTGCAGAATATTGTAATTTGTTGCACACTATGTAACAA----AACTGAA 178154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           177978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               178038 TGGTAGAGTTATAAATGGAAAGATTACACTATCTGATTAATAGTTTCTTCATACTCTGCA 178097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     177918
                                                                                                                                                                                                                                                                                                                                                         1221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1101 CTTTCCATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCTGATTTGCTAGTTCTTCC 1160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGATTCTTACCGTTTCCAC-AAGGTCAGAGATTGTAAAATGGTCAATACTGACTTTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAA 741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTGGTTTATAAAAATAATGTGTGTGTAATCCTTGTTGCTTTCCTGATACCAGACTGTTTTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGGTTGGTTAGAATATATTTTGTTTTGATGTTTTATATTTGGCATGTTTAGATGTCAGGTT 1040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACCAGATCGTTTCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTTATTCCCTTGACTCAAGACCGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTTGTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGAC-TTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                   TATAATTTGTGGCTGCAGAATATTGTAATTTGTTGCACACTATGTAACAAAACAACTGAA 1280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGTAGAGTTATAAATGGAAAGATTACACTATCTGATTAATAGTTTCTTCATACTCTGCA 1220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTGGTTGGTTAGAATATATTTTGTTTTGATGTTTATATTGGCATGTTTAGATGTTGGGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTACAGCTGGTGGTGCCGAGAAGTCCAATGTTAAAAATCCAGAGCACTCCAGTCAAGCAGT
                               Submitted (09-JUL-2001) Sanger Centre, Hinxton, Cambridgeshire, CB10 128, UK. E-mail enquiries: humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk on Feb 23, 2001 this sequence version replaced gi:12956981.
                                                                                                                                                                                                   AL512349
AL512349.7 GI:13121473
HTG; HTGS_PHASE2; HTGS_CANCELLED
                                                                                                                                                                                                                                       Homo sapiens chromosome 6 clone PROGRESS ***, in ordered minor
                                                                                                                         Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates; 1 (bases 1 to 116614)
Center: Sanger Centre
                                                                                                           Bates, K.
                                                                                                                                                                     Homo sapiens
                                                                                             Direct Submission
                    Center
                                                                                                                                         Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                  RP11-223J2,
                                                                                                                                                                                                                                                                                DNA
                                                                                                                                          Hominidae;
                                                                                                                                                                                                                                                                    linear
                                                                                                                                                                                                                                                               ar HTG 10-JUL-2001
SEQUENCING IN
                                                                                                                                                        Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       177797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                177737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 177558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             177498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           178037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            177678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      177618
```

```
FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΨ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                          Вb
                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                               В
                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                       Ş
                                                                               δõ
                                                                                                             В
                                                                                                                                            Q
               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                            10466 AGTCATGGTGGTGCAGGCAGCAGCTGCAATGACATTACCAGCAGAAATCTCTAATATGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                             10557 TGATTGTGTTAGGGAACAGAGTGGGGAAAGATGTTTGCTCTCAGAACAGCCTATCT 10498
                                                                                                                                                                                                                                              10226 ACAACAGGCCAGGAAAGATTTTCATCACCTCCAGTTATTACACAGGGAGCCCCAAGGCTGTA 10167
                                                                                                                                                                                 10406
                                                10166 TGATATGACAGATCAGGAGTCCTTCGATAATGTTAAATAGTGGTTGCAGGAAATTGATCA 10107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                               147 GGCGGCGGTGGCGGCGCGCGCAGTGCAGTGACATGTCCCAGCATGAATCCCCGAATATGAT 206
                                                                                                                                                                                                                                                                                                                                               207
                                                                                                                                                                                                      318 GATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATCAAGCTTCAAATA-----
                                                                                                                                                                                                                                                                               267
                   416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          87 CATTCCTTTCTTTCGATTACCCGTGGCGCGGAGAGTCAGGGCGGCGGCGGCGGCAGCAAG 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27 TGATTGTGTTCTAGGGGACGGAGTAGGGGAAGACGTTTGCTCTCCCGGAACAGCCTATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Center project name: bA23J2

Center project name: bA23J2

Summary Statistics

Assembly program: XGAP4; version 4.5

Sequencing vector: plasmid; LO87S2; LO08 of reads

Sequencing vector: plasmid; LO87S2; LO08 of reads

Chemistry: Dye-terminator Big Dye; LO08 of reads

Consensus quality: 11639 bases at least Q30

Consensus quality: 116315 bases at least Q30

Consensus quality: 116470 bases at least Q20

Insert size: 116614; sum-of-contigs

Insert size: 116670; 7.2% error; agarose-fp

Quality coverage: 6.37x in Q20 bases; sum-of-contigs Qua
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1099;
                                                                                                                                                                                                                                                                               AGGTTTGCAGATG-----ATACATATACAGAAAGCTACATCAGCACAATTGGTGTG
                                                                                                                                                                                                                                                                                                              TAATTACTCAAGTTACTTCTTATTGGCAACTCTGGGGCTAGAAAGTCTTGCTTCCTT
                                                                                                                                                                                                                                                                                                                                   TATTATTCAAGTTACTTCTGATTGGCGACTCAGGGGTTGGAAAGTCTTGCCCTTCTTCTT 266
TTATGCCAGTGAAAATGTCAACAAATTGTTGGTAGGGAACAAATGTGATCTGACCACAAA 475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Center code: SC
Web site: http://www.sanger.ac.uk
Contact: humquery@sanger.ac.uk
------ Project Informa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NOTE: This is a 'working draft' sequence. This sequence will be replaced by the finished sequence as soon as it is the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             34471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         code: SC
te: http://www.sanger.ac.uk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="6"
/clone="RP11-23J2"
/clone=lib="RPCI-11.1"
1. 116614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             а
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             vector_side:right"
a 21866 c 22518 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="assembly_fragment:02232
clone_end:SP6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .116614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            48.98;
                                                                         -GAGTCCTTCAATAATGTTAAACAGTGGCTGCAGGAAATAGATCG 415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 687.6; DB 2; pred. No. 1.6e-101; 0; Mismatches 219;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 37753 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels 150; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 116614;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 available
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Quality
                                                                                                                                                                                                                                                                                                                                                                                       10407
                                                                                                                                                                                                                                                                                                                                                                                                                                                         10467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     86
                                                                                                                                                                                                                                                          10287
                                                                                                                                                                                                                           371
                                                                                                                                                                                                                                                                                         317
                                                                                                                                                                                                                                                                                                                          10347
                                                                                                                                                            371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13;
```

RESULT 11
HSDJ263J7/c
LOCUS
DEFINITION

HSDJ263J7 104081 bp DNA linear PRI 23-NOV-1999 Human DNA sequence from clone 263J7 on chromosome 6q14.3-15. Contains an RPI7 (60S Ribosomal Protein L7) pseudogene, a RaB1 (RAB1, member RAS oncogene family) pseudogene, ESTs, an STS and

```
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                         Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                               Вp
                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                            ДЬ
                                                                                                                                                                                                                                                                                                                 δõ
                                                                                                                                                                                                                                                                                                                                 Вp
                                                                                                                                                                                                                                                                                    ρ
                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                            밁
                                                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                          д
                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                       멍
                                                                                                                                 δÃ
                                                                                                                                                 DЬ
                                                                                                                                                               Ω
                                                                                                                                                                                밁
                                                                                                                                                                                            δÃ
                                                                     Qy
                                                                                      рь
                                                                                                    δÃ
                                                                                                                     망
                                          δÃ
                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10106 CTAGGCCAGTGAAAATGTCAACAAATTGTTGGTAGGAAACAAATGTGAT-TGCCCACAAA 10048
                                                                                                                                                                                                                                                                                                                                                                                                                                                         10047
                                                                                                                                                                                                                                                                                                                                                                                                                          476
                                                                                                                                                                                                                                                                                                                                 9633
                                                                                                                                                                                                                                                                         9692
                                                                                                                                                                                                                                                                                                      9752
                                                                                                                                                                                                             9573
                                                                                                                     9405
                                                                                                                                    1127
                                                                                                                                                  9453
                                                                                                                                                                1068
                                                                                                                                                                                9513
                                                                                        9346
                                                                                                     1187
                                                                                                                                                                                        1008 GATGTTTATATTGGCATGTTTAGATGTCAGGTTTAGTCTTGAAGATGAAGTTCAGCCA 1067
9167
               1367
                             9227
                                            1307
                                                                         1247
                                                                                                                                                                                                                           956
                                                                                                                                                                                                                                                         896
                                                                                                                                                                                                                                                                                      836
                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCAGAAAACTTTGAAACTTTTGTGTGCTGCTTTACAAAATACTGCATGTAATCCTTGCCA 9574
                                                                                                                                                                                                                                                   TCAGAACTGITTTAAACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAATCCTTGTTG 955
                                                                                                                                                                                                                                                                                                     TTTTACTGTATGTAGCTGCACTATAACAGATTCTTACCATCTCCACAAACGTCAGAGGTT
                                                                                                                                                                                                                                                                                                              TTGTACTGTATGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATT
                                                                                                                                                                                                             CTTTCCTGATACCAGACTGTTTCCCGTGGTTGGTT-----AGAATATATTTTGTTTT 1007
                                                                                                                    CTTTTGTATCAAACAGCAAAAGCAGTCTGTCAC-----TTCCATGTATACAGC
                                                                                                                                                                                AATTTGTTGCACACTATGTAACAAAACAAACTGAAGATATGTTTAATAAAAATATTGTACTTA 1306
                                                                                       CACTATCTGATTAATAGTTTCTTCATACTCTGCATATAATTTGTGGCTGCAGAATATTGT 1246
                                                                                                                                                               TTTTGTATCAAACAGCACAAGCAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAGA 1126
             <u> А</u>ВАЛАЛАЛАЛАЛАЛАЛАЛАЛАЛАЛАЛА 1394
                            CAATGGGATCTAATTAAACCAAAGAGCTTCTGCTCAGGAAAATAAACTAGCAACAGAGTG
                                           AATAGACAACCAACAAAATGGAAGAAAA 9140
                                                                                                                                                                                                                                                                                                          9693
                                                                                                                                                                                                                                                                                                                                        . 9753
                                                                                                                                                                                                                                                                                                                                                       775
                                                                                                                                                                                                                                                                                                                                                                     9812
                                                                                                                                                                                                                                                                                                                                                                                                  . 9872
                                                                                                                                                                                                                                                                             9634
                                                                                                                                                                                                                                                                                                                         835
                                                                                                                                                                                                                                                                                                                                                                                   715
                                                                                                                                                       9406
                                                                                                                                                                                                                  9514
                                   9168
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                      gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This sequence is the entire insert of clone 263J7. This sequence has been finished according to sequence map criteria as follows. attempt is made to resolve all sequencing problems, such as compressions and repeats, but not necessarily within known annotated human repeat sequence elements (e.g. Alu). Where the sequence is ambiguous, there is an annotation using the 'unsure'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              requests: clonerequest@sanger.ac.uk
on Jun 7, 1999 this sequence version replaced gi:4835284.
During sequence assembly data is compared from overlapping clones.
Where differences are found these are annotated as variations
together with a note of the overlapping clone name. Note that the
variation annotation may not be found in the sequence submission
corresponding to the overlapping clone, as we submit sequences with
only a small overlap as described above.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AL049545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (06-JUL-1999) Sanger Centre, Hinxton, Cambridgeshire, CB10 1SA, UK. E-mail enquiries: humquery@sanger.ac.uk Clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mapphing Group. Fig. 1997. Mapphing Group. Record at the Roswell Park http://www.sanger.ac.uk/HGP/Chr6
263J7 is from the library RPCII constructed at the Roswell Park
263J7 is from the library RPCII constructed at the Roswell Park
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This sequence was generated from part of bacterial clone contigs human chromosome 6, constructed by the Sanger Centre Chromosome 6 Mapping Group. Further information can be found at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases: Em:, EMBL; Sw:, SWISSPROT; Tr:, TREMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Smith, S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             feature key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AL049545.6 GI:5002650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 104081)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60S Ribosomal Protein L7; RAB1; RAS; RPL7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 complete sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Institute by the group of Pieter de s see http://bacpac.med.buffalo.edu/
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="L1 rep
6740. pr
Complement(11030. .11749)

Complement(11030. .11749)

/gene="dJ263J7.1"

/gene="dJ263J7.1"

/note="dJ263J7.1 (RPL7 (60S Ribosomal Protein L7)

pseudogene); match: CDNAs: Em:X52967 Em:X57959 Em:L16558

Em:X57958 Em:M85235 Em:M17422 Em:M29016 Em:X57961

Em:X57950 Em:U63785; match: ESTs: Em:AL047212 Em:AI683841

Em:A1609411 Em:A1620251 Em:A167871 Em:AA853290

Em:A1160448 Em:A16204632 Em:A167871 Em:AA640941

Em:AA147085 Em:A1354542 Em:AA648558 Em:AA172041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="L1P5 repeat: matches -237. .5623 of consensus" 4895. .5820 /note="L1P5 repeat: matches -1405. .-405 of consensus" 5861. .6011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="MLTlJ repeat: matches 36. .174 of consensus" 6032. .6086
                                                                                                                                                                                                                                                                    9627. .10966
/note="L1P repeat: matches 1712. .3049 of consensus"
complement(11030. .11749)
/gene="dJ263J7.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /map="q14.3-15"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /chromosome="6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                     /note="AluYb8 repeat: matches 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone_lib="RPCI-1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone="RP1-263J7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                   L1P repeat: matches 3049.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LlPA12 repeat: matches 4282. .6165 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat: matches 3626. .3680 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                            .317 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                .3866 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             · Jong. Fo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                pCYPAC2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 , of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Αn
```

```
misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                     repeat_region
                                                              repeat_region
                                                                                                            repeat_region
                                                                                                                                                         repeat_region
                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Em: AA303128 Em: AA365240 Em: AA3147910
Em: AA3081412 Em: AA313779 Em: AA526741 Em: AA314579
Em: AA50325 Em: AA4838601 Em: AA52729 Em: AA514579
Em: AA311117 Em: AA4662608 Em: AA53115 Em: AA516360
Em: AA311117 Em: AA4662608 Em: AA635115 Em: AA1367854
Em: AA308128 Em: AA466920 Em: AA6035115 Em: AA1367854
Em: AA607384 Em: AA608632 Em: W77465 Em: AA648073 Em: AA667310 Em: AA607384 Em: AA507853 Em: AA607384 Em: AA507853 Em: AA607384 Em: AA507853 Em: AA607384 Em: AA507853 Em: AA648073 Em: AA691026 Em: AA507853 Em: AA648073 Em: AA69175 Em: AA657160 Em: AA507853 Em: AA648073 Em: AA657160 Em: AA715370 Em: D51697 Em: D51697 Em: D52053 Em: AA632842 Em: AA856868 Em: AA3173529 Em: AA64949 Em: AA879164 Em: AA332842 Em: AA856868 Em: AA3173529 Em: AA093750; match: proteins: Sw: P18124 Sw: P14177 Sw: P11874 Sw: P2208 Sw: O01802 Sw: O60177 Tr: O08953"

Tr: O08953"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19472. .23244 ... /note="L1P repeat: matches 638. .4389 of consensus" /note="L1PBa repeat: matches -1549. .-1330 of consensus" /note="L1PBa repeat: matches -1549. .-1330 of consensus"
                                                                                                                                                                                                                                                     /note="LIMA2 repeat: matches 2533. .6308 of consensus" 37508. .37811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               complement(30558. .30912)
/note="match: EST AA528504"
31385. .31601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16609. .19090

/note="LIPB2 repeat: matches 1394. .3950 of consensus"

19096. .19323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12908. .13190
/note="AluJo repeat: matches 3. .302 of consensus"
13341. .13560
                                                                                                                41878. .41924
                                                                                                                                                              37976.
                                                                                                                                                                                                         /note="Alux repeat: matches 3. .305
37812. .37985
                                                                                                                                                                                                                                                                                                                                                                                                /note="L1PA7 1 32279. .32583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="L1PA5 repeat: matches 6081.
29944. .30234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="L1PB3 repeat: 29886. .29943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="L1PB2 repeat: matches 3950. .6154 of consensus"
15881. .16608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13594. .15880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    13346.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="L1PB3 repeat: matches -508.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="3
                                                                                                                                                                                    /note="LlMA2
                                                                                                                                                                                                                                                                                                                        /note="MIR repeat: matches 8.
                                                                                                                                                                                                                                                                                                                                                                   note="AluSx repeat: matches 1. .308 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="MIR repeat: matches 29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'note="L1P3 repeat: matches 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="L1PA4 repeat: matches 5413. .6144 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       note="HALl repeat: matches 1483. .1721 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="L1PA13 repeat: matches 647. .1730 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="match: GSSs AQ081091 B54651 AQ028779"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /evidence=not_experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /codon_start=1
                                                .42418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .11789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .13347
                                                                                                                                                              .41630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              subclones read TCCT, 2 read TCT"
                                                                                                                                 repeat:
                                        repeat: matches 1. .79 of consensus"
                                                                                                                                                                                 repeat: matches 2362.
                                                                                                                                                                                                                                                                                                                                                                                                                   repeat: matches 5862. .6145 of consensus"
repeat:
                                                                                                                                      matches -1390.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   matches -218.
                                                                                      matches 127. .173 of consensus"
  23.
                                                                                                                                                                                                                                                                                                                          .247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .231 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .256 of consensus'
  .466
                                                                                                                                                                                                                                                                                                                          of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .-218 of consensus
                                                                                                                                      .2698 of consensus
                                                                                                                                                                                    . 2533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .6139 of consensus"
                                                                                                                                                                                                                                 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .6130 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .-1330 of consensus
of.
                                                                                                                                                                                    of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            consensus "
```

misc_feature

OY 27 TGATTGTGTTCTAGGGGAGGAGGAGGAGGAGGGTGGGTGCTGGGACAGGCCTATCT or 11111111111111111111111111111111111	repeat_region 5999 .59796 note="FAM repeat: matches 61156 of consensus" repeat_region 59902 .59827 repeat_region 59209 .60191 repeat: matches 22% conserved" repeat_region 59209 .60191 repeat: matches 21812545 of consensus" repeat_region 60280 .60605 repeat_region 60280 .106005 repeat_region 60280 .106005 repeat_region 60280 .90005 repeat_region 60280 .90005 repeat_region 60280 .90005 repeat_region 5929 .106005 repeat_region 5929 .106005 repeat_region 5929 .106005 repeat_region 5929 .106005 repeat_region 5920 .106005 repeat_region 5920005 repeat_region 5920005 repeat_region 5920005 repeat_	 /note="MIR repeat: matches 3255 of c .4980250099	12919) 19267" 19267" 19267" 19267" 19267 19367 19410 1
Db 94743 GATGTTTACATTGGCATGTTTAGATGTCAGGTTTAATCTTCTGAAAGATGAAGTTCAGCCA 94684 Oy 1068 -TTTTGTATCAAACAGCACAAGCAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAAA 1126			95576 AGGTTTGCAAGTGAAACATGTAATACATATACAGAAACTACATCAGCACAAATAATAAGTAGGG 95517

```
JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 12
AC067945/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                94397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAAAAAAAAAAAAAAAAAAAAAAAAA 1394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAATGGGATCTAATTAAACCAAAGAGCTTCTGCTCAGGAAAATAAACTAGCAACAGAGTG 94398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AATAGACAACCAACAAAATGGAAGAAAA 94370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Direct Submission
Submitted (25-APR-2001) Genome Sequencing Center, Washington
Submitted (25-APR-2001) Genome Sequencing Center, Washington
Diversity School of Medicine, 4444 Forest Park Parkway, St.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 (bases 1 to 162471)
Isak,A., Elliott,G., Doebber,A., Abbott,A., Hawkins,M. and Falk,A.
The sequence of Homo sapiens BAC clone RP11-629B4
Unpublished
all regions were double stranded, sequenced with an alternate chemistry, or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by sequence
                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (07-NOV-2001) Department of Genetics, Washington University, 4444 Forest Park Avenue, St. Louis, Missouri 6: On Apr 25, 2001 this sequence version replaced gi:13518285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Direct Submission
Submitted (09-AUG-2001) Department of Genetics,
University, 4444 Forest Park Avenue, St. Louis,
6 (bases 1 to 162471)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Waterston, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (27-APR-2000) Genome Sequencing Center, Washington University School of Medicine, 4444 Forest Park Parkway, St. MO 63108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Toward a complete human genome sequence Genome Res. 8 (11), 1097-1108 (1998) 99063792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mammalia; Eutheria; Primates; 1 (bases 1 to 162471) Sulston, J.E. and Waterston, R.
                                                                                                                                          NOTICE: This sequence may not represent the entire insert of this clone. It may be shorter because we only sequence overlapping clone sections once, or longer because we provide a small overlap between neighboring data submissions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Waterston, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Waterston, R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Direct Submission
                                                                                                 This sequence was finished as follows unless otherwise noted:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Waterston, R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AC067945.4 GI:13786486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63108,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to 162471)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (bases 1 to 162471)
                                                                                                                                                                                                                                                                                                           Contact: sapiens@watson.wustl.edu
----- Summary Statistics
                                                                                                                                                                                                                                                                               Center project name: H_NH0629B04
                                                                                                                                                                                                                                                                                                                                                                            Center: Washington University Genome Sequencing Center Center code: WUGSC
                                                                                                                                                                                                                                                                                                                                                  Web site: http://genome.wustl.edu/gsc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7945 162471 bp DNA linear PRI 07-1
sapiens BAC clone RP11-629B4 from 2, complete sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              to 162471)
                                                                                                                                                                                                                                                                                                       Summary Statistics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Washington
Missouri 63108,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRI 07-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63108,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Louis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Louis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
```

restriction more than one subclone; and the assembly was confirmed γď

MAPPING INFORMATION:
Mapping information for this clone was provided by Dr. John D.
Mapping information for this clone was provided by Dr. John D.
McPherson, Department of Genetics, Washington University, St. Louis
MO. For additional information about the map position of this
sequence, see http://genome.wustl.edu/gsc

SOURCE INFORMATION:

The clone sequenced to the left is RP11-45219, 200 bp overlap; the clone sequenced to the right is RP11-317J9. Actual start of this clone is at base position 195 of RP11-629B4; actual end is at base position 162471 of RP11-629B4. donor, as described by Osoegawa, K., Woon, P.Y., Zhao, B., Frengen, E., Tateno, M., Catanese, J.J. and de Jong, P.J. (1998) An improved approach for construction of bacterial artificial chromosome libraries. Genomics 51:1-8. The clone may be obtained either from Research Genetics, Inc. (http://www.resgen.com) or Pieter de Jong and coworkers at the Roswell Park Cancer Institute The RPCI-11 human BAC library was made from the blood of one male NEIGHBORING SEQUENCE INFORMATION: (http://bacpac.med.buffalo.edu)

repeat_region repeat_region source repeat_region /rpt_iami
3209. .32 /rpt_ 5108 /rpt /rpt_family="AT_rich" 9573. .9600 /rpt_famil 6213. .649 /rpt_family="Alu" 5997. .6133 /rpt_family="Alu" 4776. .5044 /rpt_family="MIR" 4158. .4475 /rpt 1887 11440 /organism="Homo sapiens" /db_xref="taxon:9606" Location/Qualifiers /clone_lib="RPCI-11" /clone="RP11-629B4" chromosome="2" .16247 _tamil _fami _family="L1" _family="AT_rich" _family="Alu" _family="AT_rich" _family="AT_rich" _family="Alu" family="AT_rich" familyfamily="AT_rich" lly="Alu" lly="MIR" y="Alu" y="Alu" y="L1" "(TTTTG)n"

repeat_region repeat_region repeat_region

/rpt_1 14656.

tami

amily="(TATATG)n" .14747

_fami

		1 AAGCGATAGCTGAGT-GCGGCGGCTGCTGATTGTGTTCTAGGGGACGGAGGAGGAGGAAGA 59	VΩ
Db 68870 GTTCCTGGAGCAACAGCTGGTGGTGCTGAGAAATTTGGCTCCATCCTTTTCTCACAGAGCACTCTG 68811 Oy 672 GTCCAAGCAGTCAGGTGGAGGTTGCTGCTAAAATTTGGCTCCATCCTTTTCTCACAGAGCAAT 731	8;	WHELY MALCH: 40.76; SCUTE 084.4; DB 9; LENGTH 1624/1; Best Local Similarity 71.1%; Pred. No. 5.4e-101; Matches 1237; Conservative 0; Mismatches 76; Indels 427; Gaps	Best L Matche
612 GGTCCCGGAGCAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCA		gion 4784048153	rep
68930 AATGCAATGAAGATGTAGAACTGTGTTCCATGATGATGGCAGCTGAGATTAAGAAGCTAATG		repeat_region 4772747789 /rpt_family="L2"	rep
552 AATGCAACGAATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATG		repeat_region 4746947686 /rpt_family="MER1_type"	rep
Db 68990 CATTGCTCTCCAGCCTAGGAGGACGGAGCAAGACTCTGTCTCAAAAAAAA			i G
Qy 549			
Db 69050 CTGAGGCAGGAGAATTGCTCGAACCCAGGTGGCGGAGGTTGCAGTGAGCCGAGATTGCGC 68991		/rpt_fa 42719	rep
Qy 549 548	,		rep
Db 69110 AAAATACAAAAATTAGCCAGGCATGGTGGCGGGCGCCTGTAATCCCAGCTACTTGGGAGG 69051			rep
Qy 549 548		_region	rep
Db 69170 CACCTGAGGTCAGGAGTTCGAGAGCCTGGCCAACATGATGAAACCCCCATCCCTACTA 69111		<pre>/rpt_family="Alu" repeat_region 3735437634</pre>	rep
Qy 549 548		<pre>/rpt_tamily="Alu" repeat_region 36502 .36816</pre>	rep
69230 GCCCGGCACGGTGGCTCATGCCTGTAATCCCAGCACTTTGGGAGGCCGAGGTGGGTG		repeat_region 3323233532	rep
C S S S S S S S S S S S S S S S S S S S		repeat_region 30093	rep
500		repeat_region 2848128541	rep
Db 69290 GGAATTTTCCTGATATCCTTTTTTTTTTTTTTTTTTTTT	÷	repeat_region 2806528196 /rpt_family="Alu"	rep
503 CCAA#TTTCCTCATTTCCAA#TTCCCAA#TTCCCAA#TTTCCCAA#CCAACTT		repeat_region 2800228057 /rpt familv="MER1 type"	rep
OY 443 GTT1GGTAGGGAACAAATGTGATCTGACCACAAGAAAGTAGTAGTACACCAACACGGAA 502 		repeat_region 27513. 27652 /rpt_family="12" /rpt_family="12"	rep
5910 TAATATTAAACAGTGACTGCAGAAAATAGATCATTATCCCAGTGAAAACGTCAACAAATT		repeat_region	rep
383 TAATGTTAAACAGTGGCTGCAGGAAATAGATCGTTATGCCAGTGAAAATTGTCAACAAATT		repeat_region 26754 .26897 /rnt family "MEP1 type"	rep
69470 TTACAGAGGAGCCAATGGCATCCTAGTGGTGTATGATGTGACAGATCAGGAGTCCTTCAA		repeat_region 26500. 26664	rep
3/2GAGTCCTTCAA		repeat_region 25927. 26475	rep
69530 CANGCTTCAAATATGGAACACAGCAGGAAAGGGTTTCGAACAGTCATCTCCAGTTA		repeat_region 255425846	rep
359 CAAGCTTCAAATA		repeat_region 2299423105	rep
6959U CATCAGCACAATTGGTATGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAAT		repeat_region 22806 .22860	rep
299 CATCAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAAT		/rpt_family="MIR" repeat_region 21523 21828	rep
Db 69650 GGGGTTGGAAAGTCTTGCCTCCTTCTTAGGTTTGCAGATGATAACATATACAGAAAGCTA 69591		<pre>/rpt_tamily="AT_rich" repeat_region 2121221327</pre>	rep
Qy 240 GGGGTTGGAAAGTCTTGCCTTCTTCTTAGGTTTGCAGATGAT-ACATATACAGAAAGCTA 298		<pre>/rpt_family="L2" repeat_region 2027120291</pre>	rep
Db 69709 ATGTCCAGCATGAATCCCAAAT-TGATTATTTATTCAAATTACTTCTGATTGGCGACTCT 69651		<pre>/rpt_family="L2" repeat_region 1933019710</pre>	rep
180		/rpt_family="Alu" repeat_region 1852218865	rep
Db 69769 AGTCAGGGCAGCTGTAGCAGCAAGGGTGGCCGTGGCAGCGGTGGCAGCTACAGTGAC 69710		<pre>/rpt_family="L2" repeat_region 1821018521</pre>	rep
QY 120 AGTCAGGGCGGCGGCGGCGAGCAAGGGCGGCGGCGGCGGCGGC			rep
Db 69829 CATTTACTCTCCCAGAACAGCCTATCTCATTCCTTTCAGTTACCCGTGGTGCAGAG 69770		repeat_region 1/8281/953 repeat_region 1/96418138	de i
OY 60 CGTTTGCTCTCCCGGAACAGCCTATCTCATTCCTTTCTTT			i eb
Db 69889 AAGCAATAGCTGAGTGGCAGCGGCTGCTGATTGCGTTCCAGGGGGCAGAGTCGGGGAAGA 69830		/rpt_family="AT_rich"	100

mRNA)"

kb mRNA)"

Indels Length 4678,

9;

Gaps

7;

1920 621

681

860

2040

919

2159

1158

1218 2458 1099

2399

1039

2279

2339

979

2219

σ

(AA 141-205)"

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                             KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                               ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                     LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                            RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δō
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                         FEATURES
                                                                                     COMMENT
                                                                                                                                                                   REFERENCE
                                                                                             JOURNAL
MEDLINE
PUBMED
                                                                                                                                            AUTHORS
TITLE
                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               68464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          68570
                                                                                                                                                                                                                                                                                                                                                                                            68224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      68344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               68524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        68630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      68690
                                                                                                                                                                                                                                                                                                                                                                                                                  1269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1029
             precursor_RNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCTGATTT
                                                                                                                                                                                                                                                                                                                                                                                                      GCTAGTTCTTCCTTGTAGAGTTATAAATGGAAAGATTACACTATCTGATTAATAGTTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGATGTCAGGTATAGTCTTCTGAAGATGAAGTTCAGCCATTTTATATCAAACAGCACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACCA 969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAC--TTTTTTTTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTA 909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTAGTTCTTCCTTGTAGAGTTATAAATGGAAAGATTACACTGTCTGATTAATAGCTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GACTGTTTTCTCGTGGTTGGTTAGAATATATTTTGTTTTGATGTTTATATTGGTGTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACTTTTTTTTTTATTCTCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTCTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGCACTACAACAGATTCTTACCATATCCACAGAGGTCAGAGATTGTAAATGGTCAATACT
                                                                                                                                                                                                                                                                                                                                                                                           AAAACAACTGAAGATATGTTTAATAAATATCGTACTTATTGGAAGTAATATTTAAAAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCCATTTTGTATCAAACAGCACAAG 1088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AACCTTTGTGTGCTGGTTTATAAAATAATGTAT------
                                                                                             89386011
2506528
                                                                                                                                                                                                                                                                        Mus
                                                                                  Data
                                                                                                                                                                           Submitted (07-JUL-1989) Wichmann H., MPI of Biophysical Chemistry, Dept of Molecular Genetics, P O Box 2841, D-3400 Goettingen, F R G
                                                                                                                                                                                                                                                                                              Mouse ypt1 gene fo
X15747
X15747.1 GI:55463
                                                                                                                              GTP-binding protein
                                                                                                                                                       Wichmann, H.,
                                                                                                                                                                                                     Direct Submission
                                                                                                                                                                                                                Wichmann, H.
                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                   GTP-binding protein; ras-related
                                                                                                                   Nucleic Acids Res. 17 (16),
                                                                                                                                          Nucleotide sequence of
                                                                                                                                                                                                                                                                                                                                   MMYPT14
                                                                                                                                                                                                                            (bases 1 to 4678)
                                                                                                                                                                (bases 1 to 4678)
                                                                                                                                                                                                                                                                        musculus.
                                                                      kindly reviewed (27-OCT-1989)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                      ypt1 gene for
 /strain="c(CH)/c(CH)"
/db_xref="taxon:10090"
<1. .2682
/note="primary transcr
                                               /organism="Mus musculus"
                                                           .4678
                                                                                                                                                     Disela,C.,
 primary transcript
                                                                                                                                                                                                                                                                                                                     4678 bp
                                                                                                                                          the mouse
                                                                                                                                                       Haubruck, H. and Gallwitz, D.
                                                                                                                     6737-6738
                                                                                                                                                                                                                                                                                                                   DNA 1
GTP-binding
                                                                                                                                         ypt1
                                                                                                                                                                                                                                                                                   protein; ypt1 gene
                                                                                 уd
                                                                                                                                          gene
                                                                                  Wichmann
                                                                                                                     (1989)
                                                                                                                                          encoding
                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                    protein,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -TTTCCTGATATCA
                                                                                  I
                                                                                                                                          ø
                                                                                                                                                                                                                                                                                                                                ROD 05-APR-1995
                                                                                                                                                                                                                                       Murinae; Mus
                                                                                                                                                                                                                                                                                                                      exons 4-6
                                                                                                                                            ras-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1208
                                                                                                                                                                                                                                                                                                                                                                                         68165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 68345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 68691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     68285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         68525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        68571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        791
                                                                                                                                                                                                                                                                                                                                                                                                                                        68225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               68405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            68465
Ş
                       밁
                                         δÃ
                                                                    밁
                                                                                        Qy
                                                                                                                   밁
                                                                                                                                    Qy
                                                                                                                                                               B
                                                                                                                                                                                     Qy
                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                         Вb
                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                  뫄
                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                             1040
                                                                                                                     2280
                                                                                                                                                                  2220
                                                                                                                                                                                                               2160
                                                                                                                                                                                                                                                             2101
                                                                                                                                                                                                                                                                                                          2041
                                                                                                                                                                                                                                                                                                                                                        1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                   1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1801 AGGAATTTGCAGATTCCCTTGGAATTCCATTTTTGGAAACCAGTGCTAAGAACGCAACGA 1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                      1921 CTACAGCTGGTGGTGCCGAGAAGTCCAATGTTAAAATCCAGAGCACTCCAGTCAAGCAGT 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           polyA_site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 intron
                                                                                                                                          980
                                                                                                                                                                                         920
                                                                                                                                                                                                                                     861
                                                                                                                                                                                                                                                                                   802
                                                                                                                                                                                                                                                                                                                                 742
                                                                                                                                                                                                                                                                                                                                                                              682
                                                                                                                                                                                                                                                                                                                                                                                                                            622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      502 AGGAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGA 561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
nes 782; Conserv
                                                                                                                                                                                                              TTTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAAC-TGTTTTAAACCTTTGTG
                                                                                                                  CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGAC-TTTTTT
                                                                                                                                                                                                                                                                                                                                                        CAGGTGGAGGCTGCTAAAATCTGCCTCCGTCCTTTTCTCACAGCAATGAATTCGCAA
                                                                                                                                                                                                                                                                                                                                                                   CAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAA 741
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCTGGAG
                       CAGATTCTTACCGTTTCCAC - AAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTTT
                                                                                                                                                                                                                                                                                                                     CAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAG
 CCTTGTAGAGTTATAAATGGAAAGATTACACTATCTGATTAATAGTTTCTTCATACTCTG
                                                                                                                                                                                                                                                                                                          1338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      α
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2654.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2586.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /usedin=X15744:gtpb_cds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="polyA site"
913 c 905 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      note="pot. alt. polyA signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="pot. polyA signal (1.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /usedin=X15744:gtpb_cds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="GTP-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1803.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="Exon 6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="Intron V"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1654.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /usedin=X15744:gtpb_cds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="Exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="Intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="Exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       48.6%;
94.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .1653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .1802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    . 2682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ű
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 682.6; 1
Pred. No. 9.5e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5e-101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (1.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              &
```

밁 οy В δÃ В

```
TITLE
JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 14
AC117841/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
                              JOURNAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1219 CATATAATTTGTGGCTGCAGAATATTGTAATTTGTTGCACACTATGTAACAAAACAACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2459 CCTGGTAGAGTTATAAAGGGACAGAGCACACTATCTGATTAATAGTTTCTTCATACTCTG
                                                                                                                                                                CCE 1 (bases 1 to 207945)

RRS Muzny, D. M., Adams, C., Adio-Oduola, B., Ali-osman, F.R., Allen, C., Alsbrooks, S. L., Amaratunge, H.C., Are, J.R., Ayele, M., Banks, T., Alsbrooks, S. L., Amaratunge, H.C., Are, J.R., Ayele, M., Banks, T., Barbaria, J., Benton, J., Bimage, K., Blankenburg, K., Bonnin, D., Bouck, J., Bowle, S., Brieva, M., Brown, E., Brown, M., Bryant, N.P., Buhay, C., Burch, P., Burkett, C., Burrell, K. L., Bydd, N.C., Chen, G., Chen, G., Chen, R., Chen, E., Brown, M., Bryant, N.P., Buhay, C., Burch, P., Burkett, C., Burrell, K. L., Bydd, N.C., Chen, G., Chen, R., Chen, C., Chen, G., Chen, R., Chen, C., Chen, C., Chen, G., Chen, R., Chen, C., Chen, C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CATATAATTTGTGGCTGCAGAATATTGT-ATTTGTTGCACACTATGTAACAA---AACTG 2574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGATATGTTTAATAAATATTGTACTTATTGGAAGTAATATCAAA 2619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Norway rat.
Rattus norvegicus
Eukaryota; Metazoa; (
Mammalia; Eutheria; )
                                                2 (bases 1 to 207945)
Worley, K.C.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC117841 207945 bp D)
Rattus norvegicus clone CH230-360J6,
****,73 unordered pieces.
   Submitted (11-APR-2002) of Molecular and Human (
                                                                                                                                                    Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AC117841.4 GI:21746140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HTGS_PHASE1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chordata; Craniata; Vertebrata; Euteleostomi; Rodentia; Sciurognathi; Muridae; Murinae;
Human Genome Sequencing Center, Department Genetics, Baylor College of Medicine, One
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA linear HTG 17-JUL-2002
6, *** SEQUENCING IN PROGRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Baylor Plaza, Houstou, 3 (bases 1 to 207945)
Worley, K.C.
Direct Submission
Submitted (17-JUL-2002) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA
On Jul 14, 2002 this sequence version replaced gi:20258099.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NOTE: Estimated insert size may differ from sequence length (see http://www.hgsc.bcm.tmc.edu/docs/Genbank_draft_data.html).

NOTE: This is a 'working draft' sequence. It currently consists of 73 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are persented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequencing vector: plasmid; chemistry. Dye-terminator Big Dye: 100% of reads chemistry. Dye-terminator Big Dye: 100% of reads Assembly program: Phrap; version 0.990329 Consensus quality: 129522 bases at least Q30 Consensus quality: 134968 bases at least Q30 Consensus quality: 138682 bases at least Q20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Center project Information
Center project name: GTBP
Center clone name: CH230-360J6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16623
18020
18120
19775
19875
21204
                                                                                                                                                                                                                                                                                                                                                                                          7428
9083
9183
10232
10332
11664
11764
113477
13477
13577
15577
                                                                                                                                                                                                                                                        19874
21203
                                                                                                                                                                                                                                                                                                               10231:
10331:
11663:
11663:
114763:
13476:
13576:
15050:
15150:
15150:
16522:
16622:
16622:
16622:
16622:
16622:
16622:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1046:
                                                                                                                                                                                                                                                     contig
gap of
contig
co
                                                                                                                                                                                                                                                                                                                                                         f unknown
y of 1713
f unknown
f of 1474
f unknown
f unknown
y of 1372
f unknown
f unknown
f unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   y of 1046
f of 100wn
y of 100wn
f of 1138
f unknown
g of 1148
f unknown
f unknown
g of 1372
f unknown
y of 1372
f unknown
g of 1372
unknown
of 1329
unknown
of 1680
of 1680
unknown
of 1680
unknown
of 1680
unknown
of 1681
unknown
of 1012
unknown
of 1012
unknown
of 1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
of 1332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown
of 1049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of 1655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        bp in length
length
bp in length
length
length
                                                                                                                                                                                              length
bp in length
                                                                                                                                                                                                                                                                                                                                                   length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length
bp in length
length
                                                                                                                                                    length
bp in
                                                                                                                                                                                                                                                           length
bp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          bp in length
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp in length
length
                                             length
bp in length
                                                                                             length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                          length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bp in length
                                                                                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                      in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              in length
length
                                                                                                                                                    length
                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                                                                                                                                                                             length
```

	48.3%; Score 679.2; DB 2; Length 207945; ty 81.9%; Pred. No. 3.8e-100; ervative 0; Mismatches 98; Indels 109; Gaps	3 84832: gap of unknown length 3 87219: contig of 2387 bp in leng 0 87319: gap of unknown length 0 90363: contig of 3044 bp in leng	80843: gap of unknown length 82486: contig of 1643 bp in leng Pa2586: gap of unknown length 84732: contig of 2146 bp in leng	of unknown length Lig of 2443 bp in leng of unknown length tig of 2772 bp in leng	75328; contig of 1601 bp in length	66995: gap of unknown length 66991: contig of 1396 bp in len 68391: contig of 1396 bp in len 68491: gap of unknown length 706772: contig of 2181 bp in len	1 63300: gap of unknown length 1 65110: contig of 1310 bp in leng 1 65210: gap of unknown length 1 66895: contig of 1685 bp in leng	4 610633 gap of unknown length 4 62330: contig of 1267 bp in 62330: gap of unknown length 62430: gap of unknown length	5 57484: gap of unknown length 5 59403: contig of 1919 bp in leng 5 59403: gap of unknown length 6 60863: contig of 1460 bp in leng	53059: gap of unknown length 54842: contig of 1783 bp in leng 54842: gap of unknown length 3 57384: contig of 2442 bp in leng	1 50180: gap of unknown length 1 51471: contig of 1291 bp in leng 2 51571: gap of unknown length 2 52959: contig of 1388 bp in leng	47475: gap of unknown length 6 48634: contig of 1159 bp in leng 5 48734: gap of unknown length 5 50080: contig of 1346 bp in leng	44250: control of uknown length to 44250: gap of uknown length len 145440: contig of 1190 bp in len 145540: gap of uknown length length quarter of 1835 bp in len 147375: contig of 1835 bp in len	41128: gap of unknown length 4250: contig of 1422 bp in leng 42750: gap of unknown length 42750: gap of unknown length	38071: contrig of 1100 pp in length 2 38071: gap of unknown length 2 39263: contig of 1192 bp in length 39363: gap of unknown length 4 41178: contig of 1765 bp in length	5 34824: gap of unknown length 5 36502: contig of 1678 bp in length 6 36600: gap of unknown length 737971: contig of 1368 bp in length	5 32245: contra of 1253 bp in len 33498: contig of 1253 bp in len 33598: gap of unknown length	7 29326: gap of unknown length 7 30424: contig of 1098 bp in length 30524: gap of unknown length
Qy 981 GTGGTTGGTTAGAATATATTTTGTTTTGATGTTTATATTGGCATGTTTAGATGTCAGGTT 1040	Qy 921 GCTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTGC	Qy 861 TITATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTGTGT 920	Qy 802 CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGAC-TTTTTT 860	Qy 743 CTGAACCCAAGTGAAAAAAAAAAAT-TGCCTGAATTGTACTGTATGTAGCTGCACTACAA 801	QY 683 AGGTGGAGGTTGCTGCTAAAATTTGCCTCATCCTTTTCTCACAGCAATGAATTTGCAAT 742	Qy 623 AACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTC 682	Qy 563 TGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGGGAATGGGTCCCGGAGC 622	QY 503 GGAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAAGCAGTGCTAAGAATGCAACGAA 562	Oy 443 GTTGGTAGGGAACAAATGTGATCTGACCACAAAGAAAGTAGTAGACTACACAACAGCGAA 502	QY 383 TAATGTTAAACAGTGGCTGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAACAAATT 442	Qy 372	Qy 359 CAAGCTTCAAATA371	QY 300 ATCAGCACAA-TTGGTGTGGATTTCAAAATAAGAACTATAGAGGTTAGACGGGAAAACAAT 358	QY 240 GGGGTTGGAAAGTCTTGCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTAC 299	QY 180 ATGTCCAGCATGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGACTCA 239	Qy 120 AGTCAGGGCGGCGGCGGCAGCAAGGGGCGGCGGGGGGGGG	OY 60 CGTTTGCTCTCCCGGAACAGCCTATCTCATTCCTTTCGATTACCCGTGGGGGGGG	OY 1 AAGCGATAGCTGAGT-GCGGCGGCTGCTGATTGTGTTCTAGGGGACGGAGTAGGGGAAGA 59

밁 δ Ъ

```
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 15
AC099354/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KEYWORDS
                  REFERENCE
AUTHORS
                                                                                                                                                                    TITLE
JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                       AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               90723 TAGT 90720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1041 TAGT 1044
                                                                                                                                                                                              CCE 1 (bases 1 to 14028)
CCE 1 (bases 1 to 14028)

MIZNYD M., Adams, C., Adio-Oduola, B., Ali-osman, F.R., Banks, T., Balbrooks, S.L., Amartunge, H.C., Are, J.R., Ayele, M., Banks, T., Balbrooks, S.L., Bantunge, H.C., Are, J.R., Ayele, M., Banks, T., Balbrooks, S.L., Bantunge, K., Bonnin, D., Bouck, J., Bowle, S., Brieva, M., Brown, E., Brown, M., Bryant, N.P., Bouck, J., Bowle, S., Brieva, M., Brown, E., Brown, M., Bryant, N.P., Bouck, J., Bowle, S., Brieva, M., Brown, E., Brown, M., Bryant, N.P., Bouck, J., Bowle, S., Chen, R., Chen, Z., Chowdhry, I., Christopoulos, C., Cleveland, C.D., Cox, C., Coyle, M.D., Dathorne, S.R., David, R., Chen, Z., Chowdhry, I., Christopoulos, C., Cleveland, C.D., Cox, C., Coyle, M.D., Dathorne, S.R., David, R., Landry, N., David, R., Hernandez, J., Hernandez, J., Harris, K., Hart, M., Harthud, P., Hallins, B., Hernandez, J., Hodson, A., Hogues, M., Holloway, C., Hollins, B., Jacobson, B., Jia, Y., Johnson, R., Jolivet, S., Joudah, S., Hamilton, K., Karisson, E., Keily, S., Hamilton, K., Hernandez, J., Jackson, L.E., Hernandez, J., Hubst, S., Hamilton, R., Martindale, A., Martincez, E., Maheshari, M., Mapue, P., Martin, R., Martindale, A., Martincez, E., Maheshari, M., Mapue, P., Martin, R., Martindale, A., Martincez, E., Maheshari, M., Mapue, P., Martin, R., Martindale, A., Naurid, S., Sonet, R., Sonake, T., Bolter, R., Luna, R., Martincez, E., Martindale, M., Ren, Y., Perez
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        174028 bp
Rattus norvegicus clone CH230-901,
67 unordered pieces.
AC099354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AC099354.3 GI:21722818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Norway rat.
Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HTG; HTGS_PHASE1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                       Worley, K.C.
Direct Submission
Submitted (10-NOV-2001) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA
3 (bases 1 to 174028)
Worley, K.C.
Direct Submission
                                                                                                                                                              (bases 1 to 174028)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA linear HTG 11-JUL-2002
*** SEQUENCING IN PROGRESS ***,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (11-JUL-2002) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA On Jul 10, 2002 this sequence version replaced gi:17942431.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     * NOTE: Estimated insert size may differ from sequence length

* (see http://www.ngsc.bcm.tmc.edu/docs/Genbank.draft_data.html).

* NOTE: This is a 'working draft' sequence. It currently

* NOTE: so 67 contigs. The true order of the places

* consists of 67 contigs. The true order of the places

* is not known and their order in this sequence record is

* runs of N, but the roter the contigs are represented as

* runs of N, but the exact sizes of the gaps are unknown.

* runs of N at it is available and the accession number will

* be preserved.

* 1004. * Onn+in of 1004 by 1004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequencing vector: Plasmid; Sequencing vector: Plasmid; Dye: 100% of reads Chemistry: Dye-terminator Big Dye: 90039
Assembly program: Phrap; version 0.990329
Assembly program: 21217 bases at least 040
Consensus quality: 127323 bases at least 030
Consensus quality: 131924 bases at least 020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Center project Information
Center project name: GDIS
Center clone name: CH230-901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Web site: http://www.hgsc.bcm.tmc.edu/
Contact: hgsc-help@bcm.tmc.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Center: Baylor College of Medicine Center code: BCM
                                                         1004: contig of 1004 bp in length
1104: gap of unknown length
2301: contig of 1197 bp in length
2401: gap of unknown length
3456: contig of 1055 bp in length
3556: gap of unknown length
4594: contig of 1038 bp in length
4594: contig of 1038 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gap of contig gap of contig gap of gap of contig gap of gap of gap of gap of gap of contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           f unknown
of 1205
unknown
of 1392
unknown
f unknown
f unknown
                    f unknown
g of 1420
f unknown
g unknown
f unknown
f unknown
g unknown
                                                                                                                                                                                                                                                                                                                                                          unknown
unknown
of 1767
unknown
of 1167
unknown
of 1412
unknown
of 1412
unknown
of 1493
of 1493
of 1493
of 1105
                  2 bp in length
7 bp in length
7 bp in length
0 bp in length
1 length
1 length
5 bp in length
1 length
                                                                                                                                                                                                                                                                                                                   bp in length
n length
5 bp in length
n length
n length
) bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      bp in
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length
bp in length
                                                                                                                                                                                                                                                       bp in length
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                length
bp in length
                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                           ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in length
```

```
Query Match
Best Local Similarity 79.9
Matches 822; Conservative
                                                                                                                                                                                      3176
312867
32887
32887
32887
348734
348734
348734
43916
40776
40776
40776
40776
551896
551896
551896
551896
551896
561038
557513
57513
57513
57513
57513
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57713
57
                                                                                                                                                                                    51995

54223

54223

55763

557612

57612

57612

57612

59622

59622

59622

59622

60937

63206

64956

64956

67731

67731

67731

67731

70617

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

77162

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

771762

77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            321865
329865
329866
329866
34733
34733
356661
366661
366661
366661
366655
440675
440970
445970
446970
446970
                                                                                                              ).8%;
                                                                                                                                                                                  contig
gap of
contig
contig
gap of
contig
co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gap of contig gap of contig
                                                                                         Score 573.8; DB 2; Pred. No. 3.7e-83; 0; Mismatches 97;
                                                                                                                                                                               of 1021
unknown
of 1071
unknown
of 1072
unknown
of 2194
unknown
of 2538
unknown
of 2538
unknown
of 2885
unknown
of 2186
of 11540
unknown
of 21649
unknown
of 2170
unknown
of 2170
unknown
of 2170
unknown
of 2170
unknown
of 3164
unknown
of 3165
unknown
of 1910
unknown
of 18675
unknown
of 18786
of 27866
of 27866
of 27866
of 27866
of 27866
of 3514
unknown
of 3514
unknown
of 3514
unknown
of 3514
unknown
of 3514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bp in length
length
bp in length
                                                                                                                                                                                                                                                                                                                                          bp in length
length
bp in length
length
length
bp in length
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                bp in length
bp in length
length
length
bp in length
bp in length
bp in length
bp in length
length
length
length
length
bp in length
bp in length
bp in length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                bp in length
length
bp in length
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bp in length
length
bp in length
length
bp in length
length
bp in length
bp in length
bp in length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bp in length
length
bp in length
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   bp in length
length
bp in length
length
length
bp in length
length
                                                                                                                                                                               bp in 1 length bp in 1 length bp in 1 length bp in 1 length bp in 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         bp in l
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp in l
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bp in l
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   bp in l
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         bp in length
length
                                                                                                                                                                                                                                                                                                                in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in length
                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                       Length
                                                                                             Indels
                                                                                                                                     174028;
                                                                                             110;
                                                                                           Gaps
                                                                                           8;
```

ДЪ	dp Qy	Оy	ОУ	Qy Db	Qy Db	ОУ	Дb	db Qy	DP QA	D VQ	ОУ	ОУ	Qy Db	DP PA	Db	Qу
923 99703	863 99763	804 99822	744 99882	684 99942	624 100002	564 100062	504 100122	444 100178	384 100238	372 100298	360 100358	300 100418	240 100478	180 100535	120 100592	60 100652
TGGTTTATA 931 TGGTTTGTA 99695	TATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTGTGTGC 922 	GATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTT-TTTT 862 	TGAACCCAAGTGAAAAAAAAAATTGCCTGAATTGTACTGTATGTA	GGTGGAGGTTGCTGCAAAATTTGCCTCCATCCTTTTCTCACAGGAATGAAT	ACAGCTGGTGGTGGTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCA 683	GTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGCA 623 	GAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGAAT 563 	TTGGTAGGGAACAATGTGATCTGACCACAAAGAAAGTAGTAGACTACACAACAGCGAAG 503 	AATGTTAAACAGTGGCTGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAACAAATTG 443 	TACAGAGGAAGCCATGGCATCATAGTTGTGTATGATGTGACCGACC	AAGCTTCAAATA	ATCAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATC 359	GGGGTTGGAAAGTCTTGCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTAC 299 	ATGTCCAGCATGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGACTCA 239	AGTCAGGGCGGCGGCTGCGGCAGCAAGGGCGGCGGCGGCGGCGGCGGCGGCAGTGAC 179	CGTTTGCTCTCCCGGAACAGCCTATCTCATTCCTTTCTTT

Search completed: November 17, 2002, 12:50:42 Job time : 4075 secs

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 on :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         seq length: 0
seq length: 2000000000
            N_Geneseq_101002:*
| /SIDSZ/gcgdata/ge2 | /SIDSZ/gcgdata/ge3 | /SIDSZ/gcgdata/ge5 | /SIDSZ/gcgdata/ge5 | /SIDSZ/gcgdata/ge5 | /SIDSZ/gcgdata/ge7 | /SIDSZ/gcgdata/ge7 | /SIDSZ/gcgdata/ge9 | /SIDSZ/gcgdata/ge9 | /SIDSZ/gcgdata/ge10 | /SIDSZ/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgdata/gcgda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        November 17, 2002, 10:41:17; Search time 253 Seconds (without alignments) 12506.157 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2185239 seqs, 1125999159 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
1. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA198.DAT:*
2. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA198.DAT:*
3. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA198.DAT:*
4. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA198.DAT:*
4. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA198.DAT:*
5. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA198.DAT:*
5. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA198.DAT:*
6. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA198.DAT:*
7. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA198.DAT:*
8. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA198.DAT:*
9. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA198.DAT:*
10. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA198.DAT:*
11. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
12. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
13. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
14. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
15. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
16. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
17. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
18. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
19. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
20. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
21. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
22. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
23. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
24. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
25. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
26. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
27. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
28. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
29. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
29. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
20. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
21. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
22. \SIDS2/gcgdata/geneseq/geneseqn-embl/NA199.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4370478
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

n	O	o	ი	ი		C	ဂ		Result		
9	۵	7	σ	Ç	4	ω	N	_	1.5		
467	467	467	467	467	476.2	506	1029	1200.2	Score		
33.2	33.2	33.2	33.2	33.2	33.9	36.0	73.2	85.4	Query Match Length DB	æ	
487	487	487	487	487	723	506	1193	2528	Length I		
22	22	22	22	22	24	24	23	21	; ₩		
AAK27239	AAK01783	ABA23276	ABA53512	ABA43096	ABK83978	ABK44823	AAS83860	AAC60009	ID		SUMMARIES
Human bone marrow	Human brain expres	Probe #1742 for ge	Human foetal liver	Human breast cell	Human cDNA differe	cDNA encoding colo	DNA encoding novel	Human secreted pro	Description		

Rosen CA,

Ruben SM,

Komatsoulis

<u>ن</u>

	0 0 0 0 0 0 0		
175.2 171 166 163 155.4 150.8	179 179 179 179 179 179 179	222.4 222.4 219.8 219.8 195 195 195 195 190.8 188.8 188.8	467 467 467 467 333.4 262 262 262 262 262 262 262 262 262
11.			33.2 33.2 33.2 33.2 33.2 18.6 6.6 6.6 6.6 6.6
185 171 166 1791 607 932	179 179 179 179 179 179	1965 179	487 487 487 487 448 448 448 241 241
20 20 23 23 21	22222222	222222222222222222222222222222222222222	222222222222222222222222222222222222222
AAT19274 AAX23507 AAX23476 ABL05983 AAH87926 AAC35200	ABA331177 AAK14525 AAK40268 AAK40268 AAI21030 AAI46285 AAI06747 AAI06747	ABV04892 AAV88033 AAH55559 AAAX217232 AAAX21661 AAAX4924 AA193456 AAA83862 AAA834668 ABA48222	AAI11818 AAI33136 AAI01752 AAC06621 ABV14061 ABV44067 ABV45165 ABV45165 ABV475210 AAS47279 AAF17849
Human gene signatu Human neutrophil c Human neutrophil c Drosophila melanog Peppermint plant o Arabidopsis thalia	- 10 10 10 10 -	prostat lone FO3 breast Rab pro breast encoding polynuc ncoding secrete DNA for breast	Probe #1751 for ge Probe #1822 used t Probe #1743 used t Human genome-deriv Human prostate exp Human prostate exp Human prostate exp Human prostate exp Human breast cance Human breast cance

ALIGNMENTS

Human secreted protein gene 44 SEQ ID NO:54. 26-JAN-2001 (first entry) AAC60009; AAC60009 standard; cDNA; 2528 BP.

Human; secreted protein; diagnosis; cytostatic; immunosuppressive; nootropic; neuroprotective; antiviral; antiallergic; hepatotropic; antidiabetic; antinflammatory; antiulcer; vulnerary; anticonvulsant; antibacterial; antifungal; antiparasitic; cardiant; gene therapy; cancer; immune disorder; cardiovascular disorder; wound healing; neurological disease; infectious disease; chromosome identification; ss. 26-MAR-1999; 17-DEC-1999; WO200058356-A1. (HUMA-) HUMAN GENOME SCI INC 22-MAR-2000; 2000WO-US07535 05-OCT-2000. Homo sapiens. 99US-0126511. 99US-0172413.

```
οy
                                                                                                                                                                                                                                                                                                                                                                   Db
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dβ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The polynucleotide sequences given in AAC59966 to AAC60015 encode the CC AAB34822 represent human secreted polypeptide sequences and proteins CC AAB34822 represent human secreted polypeptide sequences and proteins CC AAB34822 represent human secreted polypeptide sequences and proteins CC AAB34822 represent human secreted polypeptide sequences and proteins CC invention. Human secreted proteins have activities based on the tissues CC and cells the genes are expressed in Examples of activities include: CC cytostatic; immunosuppressive; nootropic; neuroprotective; antiviral; CC antiallergic; hepatotropic; antidiabetic; antifungal; antiparasitic; and CC cardiant. The polynucleotides and polypeptides are useful for CC preventing, treating or ameliorating a medical condition in e.g. humans, CC mice, rabbits, goats, horses, cats, dogs, chickens or sheep: The CC useful for chromosome identification. They are also useful as probes for CC particularly breast and/or ovary cancer. They are also useful as probes for CC diagnosing a disorder related to the female reproductive system, CC addiovascular disorders, wound healing, neurological diseases and CC infectious disease. AAC59957 to AAC59965 and AAB34772 represents sequence CC used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 1319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fifty nucleic acid molecules encoding human secreted proteins, useful in the prevention, treatment and diagnosis of cancer, immune disorders, cardiovascular disorders and neurological diseases -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; Page 371; 425pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                              384
                                                                                                                                                                          388
                                                                                                                                                                                                                                                                         328
                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                   268
                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
les 1319; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGCGATAGCTGAGT-GCGGCGGCTGCTGATTGTGTTCTAGGGGACGGAGTAGGGGAAGA 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGTCAGGGCGGCGGCTGCGGCAGCAAGGGGCGGCGGTGGCGGCGGCGGCAGCTGAC
                           AATGTTAAACAGTGGCTGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAACAAATTG
                                                                        TACAGAGGAGCCCATGGCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAAT
                                                                                                                                                                                                                                                                 ATCAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATC
                                                                                                                                                                                                                                                                                                                                                                                            GGGGTTGGAAAGTCTTGCCTTCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGTCCAGCATGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGACTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGTCCAGCATGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGACTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGTCAGGGCGGCGGCTGCGGCANCAAGGGCGGCGGCGGCGGCGGCGGCAGCTGCAGTGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000-594639/56.
DB; AAB34816.
                                                                                                                                                                     AAGCTTCAAATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACCTCCAGTTAT
                                                                                                                                                                                                                       AAGCTTCAAATA----
                                                                                                                                                                                                                                                                                                                                                                   GGGGTTGGAAAGTCTTGCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTAC
2528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 772 A; 428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           85.4%;
92.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 1200.2; DB 2:
Pred. No. 4.3e-155;
0; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 545 G; 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 T; 2 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21; Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                               -GAGTCCTTCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2528;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                   359
                                                                                                                                                                                                                                                                                                                                                                   327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2
```

밁 Ş 밁 δ 밁 ρ

RESULT 2
AAS83860/c
ID AAS838
XX
AC AAS838
AC AAS838
XX
DT 13-FEB
XX
DE DNA en

AAS83860

standard;

cDNA;

ВP

13-FEB-2002

(first entry)

encoding

human diagnostic

protein

문 δÃ 밁 VΩ

```
Qy
밁
              Qy
                              B
                                           δÃ
                                                               Ъ
                                                                             Ωy
                                                                                               B
                                                                                                             QΥ
                                                                                                                               В
                                                                                                                                              Qy
                                                                                                                                                                밁
                                                                                                                                                                                               망
                                                                                                                                                                                                              Qγ
                                                                                                                                                                                                                              ₽
                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                              뫄
                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                                                                                                                                                                                                               뫄
                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                               뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
1408
                                                                                                                                 1168
                                                                                1164
                                                                                                                1104
                                                                                                                                                                 1108
                                                                                                                                                                                                1048
                                                                                                                                                                                984
                                                                                                                                                                                                               924
                                                                                                                                                                                                                                988
                                                                                                                                                                                                                                                864
                                                                                                                                                                                                                                                               928
                                                                                                                                                                                                                                                                               804
                                                                                                                                                                                                                                                                                                868
                                                                                                                                                                                                                                                                                                                               808
                                                                                                                                                                                                                                                                                                                                              684
                                                                                                                                                                                                                                                                                                                                                                748
                                                                                                                                                                                                                                                                                                                                                                               624
                                                                                                                                                                                                                                                                                                                                                                                                889
                                                                                                                                                                                                                                                                                                                                                                                                                                628
                                                                                                                                                                                                                                                                                                                                                                                                                                                504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                568
                                                                                                                                                                                                                                                                                                               744
                                                                                                                                                                                                                                                                                                                                                                                                                564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                508
                                                              TCCATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCTGATTTGCTAGTTCTTCCTTG
                                                                                                                                                               GGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAATC
                              GTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTGGTAGGGAACAAATGTGATCTGACCACAAAGAAAGTAGTAGACTACACAACAACAACGAAG
ATGTTTAATAAATATTGTACTTATTGGAAGTAATATCAAA
         GGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACCAGACTGTTTTCCCGTG
                                                                                                                                                                                                                                        ATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTGTGTGCT
                                                                                                                                                                                                                                                               GAATTTGCTGATTCCCTTGGAATTCCGTTTTTTGGAAACCAGTGCTAAGAATGCAACGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGGTAGGGAACAAATGTGATCTGACCACAAAGAAAGTAGTAGACTACACAACAGCGAAG
                                                                                                                                                                                                GGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACCAGACTGTTTCCCGTG
                                                                                                                                                                                                                                ATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAAACCTTTGTGTGCT
                                                                                                                                                                                                                                                                                                                                                                                                GTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                GAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AATGTTAAACAGTGGCTGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAACAAATTG
1447
                                 1407
                                                1283
                                                                                                 1287
                                                                                                                 1163
                                                                                                                                 1227
                                                                                                                                                 1103
                                                                                                                                                                 1167
                                                                                                                                                                                1043
                                                                                                                                                                                                1107
                                                                                                                                                                                                                                1047
                                                                                                                                                                                                                                                                                                                                                                                                                623
                                                                                1223
                                                                                                                                                                                                               983
                                                                                                                                                                                                                                                923
                                                                                                                                                                                                                                                                987
                                                                                                                                                                                                                                                                                863
                                                                                                                                                                                                                                                                                                927
                                                                                                                                                                                                                                                                                                                803
                                                                                                                                                                                                                                                                                                                                867
                                                                                                                                                                                                                                                                                                                                               743
                                                                                                                                                                                                                                                                                                                                                                807
                                                                                                                                                                                                                                                                                                                                                                                683
                                                                                                                                                                                                                                                                                                                                                                                               747
                                                                                                                                                                                                                                                                                                                                                                                                                                 687
                                                                                                                                                                                                                                                                                                                                                                                                                                                563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 627
```

```
Criptophilde (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome CC polymerase chain reaction (PCR) primers, oligomers, and for chromosome CC and gene mapping, and in recombinant production of (II). The CP primers of the primers, and for chromosome CC contitiving expressed genes. (I) is useful in gene therapy techniques CC for identifying expressed genes. (I) is useful in gene therapy techniques CC (II). (II) is useful for generating antibodies against it, detecting or quantitating a polypeptide in tissue, as molecular weight markers and as CC a food supplement. (II) and its binding partners are useful in medical CC imaging of sites expressing (II). (I) and (II) are useful for treating CC disorders involving aberrant protein expression or biological activity. Criptophypetide and polymicleotide sequences have applications in CC diagnostics, forensics, gene mapping, identification of mutations in CC and to produce other types of data and products dependent on DNA and CC amino acid sequences. Ass64197-Ass94564 represent novel human CC diagnostic coding sequences of the invention.

CC Note: The sequence data for this patent did not appear in the printed CC specification, but was obtained in electronic format directly from WIPO CC at figure the companion of the products obtained in electronic format directly from WIPO CC at figure the companion of the companio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 1182; Conserv
                                                                                                                                                                                                                                1063
                                                                                                                                                                                                                                                                                                                                                                                    1123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess biodiversity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31-MAR-2000; 2000US-0540217.
23-AUG-2000; 2000US-0649167.
                                                                            1003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 1; SEQ ID No 19664; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2001-639362/73.
P-PSDB; ABG19673.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Drmanac RT, Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30-MAR-2001; 2001WO-US08631.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1193 BP; 372 A; 279 C; 213 G; 329 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200175067-A2
                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human; chromosome mapping; gene mapping; gene therapy; forensic;
food supplement; medical imaging; diagnostic; genetic disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTCAGGGCGGCGGCTGCGGCAGCAAGGGCGGCGGTGGCGGCGGCGGCAGCTGCAGTGAC 179
GGGGTTGGAAAGTCTTGCCTTCTTTAGGTTTGCAGATGATACATATACAGAAAGCTAC 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         73.2%;
89.9%;
=+ive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 1029; DB 23; Length 1193; Pred. No. 8.7e-132; 0; Mismatches 0; Indels 133;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SS.
                                                                                                                                                                                                                           1004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2
```

RESULT 3

밁 δÃ Вb Qy В δÃ В δÃ

```
ABK44823/c

ID ABK44823 standard; cDNA; 50

XX

AC ABK44823;
XX

DT 05-JUN-2002 (first entry)
XX

DE CDNA encoding colon tumour
XX

Human; colon tumour; vaccin
XX

Homo sapiens.
XX

Homo sapiens.
XX

PN W0200212328-A2.
PN W0200212328-A2.
XX

PD 14-FEB-2002; 2001W0-US2421:
XX

PN W0200212328-A2.
PN W0200212328-A2.
XX

PN W0200212328-A2.
XX

XX

O3-AUG-2000; 2001W5-223283;
PR 29-JUN-2001; 2001W5-223283;
PR 29-JUN-2001; 2001W5-302051;
XX

XX

VA O3-AUG-2000; 2000US-302051;
XX

XX

PD HAFEB-2002; 2001W5-223283;
PR 29-JUN-2001; 2001W5-302051;
XX

XX

PN WBAR-2001; 2001W5-223283;
PR 29-JUN-2001; 2001W5-302051;
XX

XX

CORI-) CORIXA CORP.
XX

XX

New COlon cancer polypepti
PT for diagnosing, preventing
PT for the progression of can
XX

Claim 1; SEQ ID No 374; 14
XX

The invention relates to p
CC The polynucleotides and en
CC compositions, such as vacc
CC treatment of colon cancer.
CC The polynucleotides for inh
CC treatment of colon cancer.
CC treatment of colon cancer.
CC hybridisation probes or precenting
CC abk44450-Abk46237 represen
CC colon cancer, and as marke
CC Abk44450-Abk46237 represen
CC colon cancer, and as marke
CC Abk44450-Abk46237 represen
CC colon cancer, and as marke
CC Abk44450-Abk46237 represen
CC colon cancer, and as marke
CC Abk44450-Abk46237 represen
CC colon cancer, and as marke
CC Abk4450-Abk46237 represen
CC colon cancer, and as marke
CC Abk4450-Abk46237 represen
CC colon cancer, and as marke
CC abk4450-Abk46237 represen
CC colon cancer, and as marke
CC abk4450-Abk46237 represen
CC colon cancer, and as marke
CC abk4450-Abk46237 represen
CC colon cancer, and as marke
CC abk4450-Abk46237 represen
CC colon cancer, and as marke
CC abk4450-Abk46237 represen
CC colon cancer, and as marke
CC abk4450-Abk450-Abk46237 represen
CC colon cancer, and as marke
CC abk4450-Abk450-Abk46237 represen
CC colon cancer
밁
                                          Š
                                                                                                    밁
                                                                                                                                              δÃ
                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to polynucleotides encoding colon tumour proteins. The polynucleotides and encoded polypeptides are useful in pharmaceutical compositions, such as vaccines, for the diagnosis, prevention, and treatment of colon cancer. Polynucleotide sequences may be used as hybridisation probes or primers, and in the design and preparation of ribozyme molecules for inhibiting expression of tumour polypeptides and proteins in tumour cells. The compositions are useful for stimulating an immune response against cancer, particularly for the immunotherapy of colon cancer, and as markers for the progression of cancer.

ABK44450-ABK46237 represent coding sequences of human colon tumour
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           proteins of the invention. Note: With the exception of SEQ ID No 1 a for this patent did not form part of the supplied by the European Patent Office.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31-JUL-2001; 2001WO-US24218
                                                                                                                                                        890
                                                                                                                                                                                                          446
                                                                                                                                                                                                                                                            830
  326
                                                                                                      386
                                                                                                                                                                                                                                                                                                              506
                                                                                                                                                                                                                                                                                                                                                              770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      colon cancer polypeptides and polynucleotides, use diagnosing, preventing, and treating colon cancer,
                                                                                                                                                                                                                                                                                                                                      CCTGAATTGTACTGTATGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCA
                       GAGATTGTAAATGGTCAATACTGACTTTTTTTTTTATTCCCTTGACTCAAGACAGCTAACT
                                                                                                                                                                                                                                                                                                      CCTGAATTGTACTGTATGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCA
  TCATTTTCAGAACTGTTTTAAACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAATCC
                                                                                                                                                                                                     GAGATTGTAAATGGTCAATACTGACTTTTTTTTTTTTTCCCTTGACTCAAGACAGCTAACT
                                                                                                 TCATTTTCAGAACTGTTTTAAACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID No 374; 147pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; 2000US-223283P.
; 2001US-279763P.
; 2001US-302051P.
                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               194 A; 91 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tumour protein,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                     36.0%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    vaccine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               506
                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 506; DB 24; Pred. No. 1.2e-60;
                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ΒP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       colon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Secrist
                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               G; 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and 2, the sequence date printed specification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    immunogenic;
                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      374.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 506;
                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   useful as vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         e data
en but
                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           markers
                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                  . 1009
                                                                                                                                                                                                                                                                                                      447
                                                                                                 327
                                                                                                                                                   949
                                                                                                                                                                                                                                                                                                                                                           829
                                                                                                                                                                                                     387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        was
                                                                                                                                                                                                                                                                                                                                                                                                           0
```

```
RESULT 4
ABK83978
    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
(GCA), by detecting the level of expression of gene(s) (Gs) identifies DNA chip analysis as given in the specification, and comparing the expression level to an expression level in an unactivated GC, where differential expression of Gs is indicative of GCA. Also included are modulating (M2) GA by contacting GC with an agent that alters the expression of at least one gene in Gs; (2) screening for an agent capable of modulating GCA or an inflammation (especially chronic) in a tissue, an allergic response in a subject, exposure of subject to a pathogen or sterile inflammatory disease using the
                                                                                                                            The in (GCA),
                                                                                                                                                                                                                    Detecting granulocyte activation by detecting differential expression of genes associated with granulocyte activation, which serves as diagnostic markers that is useful for monitoring disease states and
                                                                                                                                                                                                                                                                                    WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200228999-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                adult respiratory distress syndrome; Crohn's disease; ulcerative colitis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1130
                                                                                                                                                                          Claim
                                                                                                                                                                                                                                                                                                               Beazer-Barclay Y, Weissman
                                                                                                                                                                                                                                                                                                                                                                             03-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                          03-OCT-2001; 2001WO-US30821
                                                                                                                                                                                                                                                                                                                                                                                                                                        11-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  granulocyte activation; chronic inflammation; allergy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cardiac reperfusion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           fungal infection; sterile inflammatory disease; psoriasis;
rheumatoid arthritis; glomerulonephritis; asthma; thrombos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           viral
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              АВК83978
                                                                                                                                                                                                                                                                                                                                               (GENE-) GENE LOGIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26
                                                                                                                                            invention relates
                                                                                                                                                                                                         toxicity
                                                                                                                                                                                                                                                                                  2002-435328/46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTGTTGCACACTATGTAACAAAACAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGTTGCACACTATGTAACAAAACAA 1275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TATCTGATTAATAGTTTCTTCATACTCTGCATATAATTTGTGGCTGCAGAATATTGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TATCTGATTAATAGTTTCTTCATACTCTGCATATAATTTGTGGGCTGCAGAATATTGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TATATGTAAGATCTGATTTGCTAGTTCTTCCTTGTAGAGTTATAAATGGAAAGATTACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TATATGTAAGATCTGATTTGCTAGTTCCTTCCTTGTAGAGTTATAAATGGAAAGATTACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTGTATCAAACAGCACAAGCAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAGATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTGTATCAAACAGCACAAGCAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAGATGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGTTTATATTGGCATGTTTAGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTTTATATTGGCATGTTTAGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCCATT
                                                                                                                                                                         1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        infection; parasitic infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cDNA differentially expressed in granulocytic cells #549.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ss; granulocytic cell; DNA chip; bacterial infection;
                                                                                                                                                                         SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              standard;
                                                                                                                                                                                                                                                                                                                                                                             2000US-237189P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first
                                                                                                                                                                          ö
                                                                                                                                                                         549;
                                                                                                                                                                                                                                                                                                                                               INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             injury; renal reperfusion injury; ARDS; istress syndrome; inflammatory bowel disease; cerative colltis; periodontal disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   entry)
                                                                                                                                         to detecting (M1) granulocyte (GC) activation
                                                                                                                                                                         114pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                723
                                                                                                                                                                                                                                                                                                                 SM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ш
                                                                                                                                                                                                                                                                                                               Yamaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protozoal infection;
                                                                                                                                                                                                                                                                                                               s
                                                                                                                                                                                                                                                                                                                 Vockley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           thrombosis;
                                                                                                                            (Gs) identified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           207
                                                                                                                            γď
```

```
CC denote() in a tissue, an allergic response in a subject, exposure of a control of the trisue of a subject to a pathogen or sterile inflammatory disease, by detecting the control of expression in a sample of the tissue of gene(s) from Gs, where control of expression in a sample of the tissue of gene(s) from Gs, where control of expression in a sample of the tissue of gene(s) from Gs, where control of the gene is indicative of inflammation; (Sepecially chronic) or in a tissue, GC an allergic response in a subject, exposure of a subject to a pathogen control of the tissue. All is useful for detecting GCA; M2 is useful for condulating GA; M3 is useful for screening an agent capable of modulating GCA; M3 is useful for screening an agent capable of modulating GCA; M3 is useful for screening an agent to a pathogen or sterile of the tissue. M1 is useful for a tissue, M4 is useful for condulating GCA; M3 is useful for screening an agent capable of modulating GCA; M3 is useful for screening an agent capable of modulating GCA; M3 is useful for screening an agent capable of modulating GCA; M3 is useful for screening an agent capable of modulating GCA; M3 is useful for screening an agent capable of modulating GCA; M3 is useful for screening an agent capable of modulating GCA; M3 is useful for screening an agent capable of modulating GCA; M3 is useful for screening an agent day of the pathogen or sterile CCA; M3 is useful for screening GCA; M3 is useful for screening GCA; M3 is useful for capable of modulating GCA; M3 is useful for capable of M3 is useful for capable
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 33.9
Best Local Similarity 84.6
Matches 613; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 723 BP; 225 A; 142 C; 180 G; 176 T; 0 other;
         540
                                                       573
                                                                                                            480
                                                                                                                                                           513
                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                 453
                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                        393
                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
TCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGCAACAGCGTGGT
                                                                                                   AACAAATGTGATCTGACCACAAAGAAAGTAGTAGACTACACAACAGCGAAGGAATTTGCT
                                                                                                                                                                                                                                                                                                          CAGTGGCTGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAACAAATTGTTGGTAGGG
                                                                                                                                                                                                                                                                                                                                                                                                                   GAGTCCTTCAATAATGTTAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAGTCTTGCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTACATCAGCACA 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACCTCCAGTTATTACAGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 33.9%; Score 476.2; DB 24; Length 723; 84.6%; Pred. No. 1.3e-56; tive 0; Mismatches 13; Indels 99;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        392
                                                 632
                                                                                                                                                     572
                                                                                                                                                                                                         479
                                                                                                                                                                                                                                                              512
                                                                                                                                                                                                                                                                                                                419
                                                                                                                                                                                                                                                                                                                                                                  452
                                                                                                                                                                                                                                                                                                                                                                                                                       359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               371
                                                                                                      539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ω
```

밁 Q

Qγ

밁 Qy Ъ Ş

Š

망 Ş ₽ õ 멍 õ Ъ QΥ 밁 δÃ g

В

```
RESULT 5
ABA43096/c
ID ABA430
ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
       The invention relates to a spatially-addressable set of single exon nucleic acid probes for measuring gene expression in a sample derived from human breast and BT 474 cells. The method involves contacting the probes with a collection of detectably labelled nucleic acids derived from muRN of human breast, and then measuring the label bound to each probe of the microarray. The probes are useful for verifying the expression of regions of genomic DNA predicted to encode proteins. They are useful for gene discovery, and for determining predisposition and/or prognosing breast disease. Gene expression analysis is useful for assessing the toxicity of chemical agents on cells. The microarray of this invention presents a far greater diversity of probes for measuring gene expression, with far less bias than expressed sequence tag microarrays. The method is suitable for present sequence is a single exon nucleic acid probe of the invention. Note: The sequence data for this parent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              04-FEB-2000; 2000US-0180312.

26-MAY-2000; 2000US-0207456.

30-JUN-2000; 2000US-0608408.

03-AUG-2000; 2000US-0632366.

21-SEB-2000; 2000US-0234687.

27-SEB-2000; 2000US-0234687.

27-SEP-2000; 2000US-0236359.

04-OCT-2000; 2000GB-0024263.
                                                                                                                                                                                                                                                                                                                  Claim 1; SEQ ID NO 1791; 327pp + sequence listing; English.
                                                                                                                                                                                                                                                                                                                                                 New spatially-addressable set of single exon nucleic acid probes, useful for measuring gene expression in sample derived from human breast, comprises number of single exon nucleic acid probes -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human breast cell single exon nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-496933/54.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Penn SG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30-JAN-2001; 2001WO-US00662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               09-AUG-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200157271-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; microarray; single exon probe; gene expression; breast;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-FEB-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABA43096 standard; DNA; 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (MOLE-) MOLECULAR DYNAMICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          719 GTGAA 723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTGAA 757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hanzel DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chen W,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rank
                                                                                                                                                                                                                                                                                                                                                                                                                                                     DR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           probe #1791.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       659
```

```
RESULT 6
ABA53512/c
δÃ
                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                           뫄
                                                                                                                                                                                                                                                                                                                        γQ
                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                        Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                      용
                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                            дЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local :
                                             04-FEB-2000;
26-MAY-2000;
30-JUN-2000;
03-AUG-2000;
21-SEP-2000;
27-SEP-2000;
04-OCT-2000;
     WPI;
                                                                                                      30-JAN-2001;
                    Penn
                                                                                                                   09-AUG-2001
                                                                                                                                                                         Human foetal liver single exon nucleic acid probe #1817.
                                                                                                                                                                                                                   ABA53512 standard; DNA;
                                                                                                                                 WO200157277-A2
                                                                                                                                               Homo
                                                                                                                                                            Human;
                                                                                                                                                                                        01-FEB-2002
                                                                                                                                                                                                      ABA53512;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                 (MOLE-)
                                                                                                                                                                                                                                                                                 107
                                                                                                                                                                                                                                                                                              862
                                                                                                                                                                                                                                                                                                            167
                                                                                                                                                                                                                                                                                                                                      227
                                                                                                                                                                                                                                                                                                                                                    742
                                                                                                                                                                                                                                                                                                                                                                  287
                                                                                                                                                                                                                                                                                                                                                                                682
                                                                                                                                                                                                                                                                                                                                                                                            347
                                                                                                                                                                                                                                                                                                                                                                                                          622
                                                                                                                                                                                                                                                                                                                                                                                                                        407
                                                                                                                                                                                                                                                                                                                                                                                                                                     562
                                                                                                                                                                                                                                                                                                                                                                                                                                                   467
                                                                                                                                                                                                                                                       47
                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACC 968
                                                                                                                                                                                                                                                                               SG,
                                                                                                                                              sapiens
                                                                                                                                                                                                                                                                                                                  CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTTT
                                                                                                                                                                                                                                                                                                                                             CAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                       2001-483447/52
                                                                                                                                                                                                                                                                                                           CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTTT
                                                                                                                                                                                                                                                                                                                                      CAGGTGGAGGTTGCTGAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAAGCGAATGGGTCCCGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11 Similarity
467; Conserv
                                                                                                                                                            foetal
                                 MOLECULAR DYNAMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          487
                   Hanzel DK,
                                             ; 2000US-0180312.
; 2000US-0207456.
; 2000US-0608408.
; 2000US-0632366.
; 2000US-0234687.
; 2000US-02346359.
; 2000US-0236359.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ВP;
                                                                                                      2001WO-US00669
                                                                                                                                                                                       (first entry)
                                                                                                                                                            liver;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     33.2%;
                                                                                                                                                            gene expression; single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ă,
                   Chen
                                                                                                                                                                                                                    487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97
                    Ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ç;
                                                                                                                                                                                                                    ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 467;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                    Rank
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ი;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 22;
2.4e-55;
thes 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T; 0 other;
                                                                                                                                                            exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 487;
                                                                                                                                                            nucleic acid probe;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                           108
                                                                                                                                                                                                                                                                                                                        861
                                                                                                                                                                                                                                                                                                                                                                                                         681
                                                                                                                                                                                                                                                                                                                                                                                                                                                   408
                                                                                                                                                                                                                                                                                                                                                                                                                                                               561
                                                                                                                                                                                                                                                                                48
                                                                                                                                                                                                                                                                                                                                      168
                                                                                                                                                                                                                                                                                                                                                   801
                                                                                                                                                                                                                                                                                                                                                                 228
                                                                                                                                                                                                                                                                                                                                                                              741
                                                                                                                                                                                                                                                                                                                                                                                                                       348
                                                                                                                                                                                                                                                                                                                                                                                            288
                                                                                                                                                            SS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
```

į.

WO200157274-A2

Homo sapiens

```
δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                      γQ
                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                           Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            fetal liver. The present sequence is a single exon nucleur uprobe of the invention.
Note: The sequence data for this patent did not form part of printed specification, but was obtained in electronic format from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                   Human; gene expression; heart; microan cardiovascular disease; hypertension; congenital heart disease; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   measuring human gene expression in a sample derived from human foetal liver. The single exon nucleic acid probes may be used for predictingy measuring and displaying gene expression in samples derived from human fetal liver. The present sequence is a single exon nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human genome-derived single exon nucleic acid probes useful analyzing gene expression in human fetal liver - \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 1; SEQ ID NO 1817; 639pp + sequence listing;
                                                                                                                    Probe #1742
                                                                                                                                                                                         ABA23276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to a single
                                                                                                                                            23-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                   742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     467
                                                                                                                                                                                                                                                                         922
                                                                                                                                                                                                                                                                                                  107
                                                                                                                                                                                                                                                                                                                         862
                                                                                                                                                                                                                                                                                                                                                 167
                                                                                                                                                                                                                                                                                                                                                                       802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              562
                                                                                                                                                                                                                                                                                                                                                                                                227
                                                                                                                                                                                                                                                                                                                                                                                                                                             287
                                                                                                                                                                                                                                                    47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                                                                                                              AGGAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGA
                                                                                                                                                                                                                                                   CTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACC
                                                                                                                                                                                                                                                                                                 CAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAG
                                                                                                                                                                                                                                                                         CTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACC 968
                                                                                                                                                                                                                                                                                                                         TTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  al Similarity
467; Conserv
                                                                                                                                                                                           standard;
                                                                                                                    for gene expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BP;
                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                154 A;
                                                                                                                                                                                           DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            33.2%;
                                                                                                                                                                                           487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              97 C; 98 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                           ΒP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 467; DB 22;
Pred. No. 2.4e-55;
0; Mismatches 0;
                                                                                microarray; vas
ension; cardiac
                                                                                                                    analysis in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   exon nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                138 T; 0 other;
                                                                                 vascular syste
iac arrhythmia;
                                                                                                                    human heart cell sample
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       probe for
from human foetal
                                                                                             system;
                                                                                                                                                                                                                                                   ب
                                                                                             probe;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  the
directly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             561
                                                                                                                                                                                                                                                                                                  48
                                                                                                                                                                                                                                                                                                                        921
                                                                                                                                                                                                                                                                                                                                                 108
                                                                                                                                                                                                                                                                                                                                                                        861
                                                                                                                                                                                                                                                                                                                                                                                                168
                                                                                                                                                                                                                                                                                                                                                                                                                      801
                                                                                                                                                                                                                                                                                                                                                                                                                                             228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                621
```

0

SQXXXX

Single hearts

Claim

1;

WPI; Penn

(MOLE-)

SG,

SEQ ID

NO:

```
04-FEB-2000;
26-MAY-2000;
30-JUN-2000;
03-AUG-2000;
21-SEP-2000;
27-SEP-2000;
04-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The present invention relates to single exon nucleic acid probes for measuring human gene expression in a sample derived from human heart. The present sequence is one such probe. The probes may be used for predicting, measuring and displaying gene expression in samples derived from the human heart via microarrays. By measuring gene expression, the probes are useful for predicting, diagnosing, grading, staging, monitoring and prognosing diseases of the human heart and vascular system e.g. cardiovascular disease, hypertension, cardiac arrhythmias and congenital heart disease, hypertension, cardiac arrhythmias and specification, but was obtained in electronic format directly from WIPO at fip.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACC
                                                                                                                                             TTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTGTGTG
                                                                                                                                                                                                                        CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTTT
                                                                                                                                                                                                                                               CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTTT
                                                                                                                                                                                                                                                                                                                                               CAGGTGGAGGTTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGGTGGAGGTTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCCGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2001-488899/53.
                                                                                                                         TTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTGTGTG
                                                                                                                                                                                                                                                                                                                  al Similarity
467; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      exon nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULAR DYNAMICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              487 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID No 1742; 530pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hanzel DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            33.2%;
ilarity 100.0%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; 2000US-0180312
2000US-0207456
; 2000US-0608408
; 2000US-0632366
; 2000US-063234687
; 2000US-0236359
; 2000US-0236359
; 2000US-00242633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2001WO-US00666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              154 A; 97 C; 98 G; 138 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chen W,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       probes for analyzing gene expression in human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 467; DB 22; Length Pred. No. 2.4e-55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rank
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                487;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                801
                                                                                                                                                                       921
                                                                                                                                                                                                                        108
                                                                                                                                                                                                                                                                 861
                                                                                                                                                                                                                                                                                                                  168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            621
                                                                                                                            48
                                                                                                                                                                                                                                                                                                                                                                                                                 228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 8
AAKO1783/c
ID AAKO1783;
XX
AC AAKO1783;
XY
AC AAKO1783;
XY
AC AAKO1783;
XX
AC JAKO1783;
XX
AC JACON-2001 CANCERS SEA
KW MILLERSY; CANCER: SS
XX
AC MO200157275-A2.
XX
AC JACON-2000; 2000US-1
AC JACO
                                                                                      ρy
                                                                                                                                                                                   QY
δÃ
                                           Ъ
                                                                                                                                       DЪ
                                                                                                                                                                                                                                          Б
                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present invention provides a number of single exon nucleic acid probes which are derived from genomic sequences expressed in the human brain. They can be used to measure gene expression in brain cell samples, which may enable the diagnosis and improved treatment of nervous system diseases such as Alzheimer's disease, multiple sclerosis, schizophrenia, epilepsy and cancers. The present sequence is one of the probes of the probes of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 487 BP; 154 A; 97 C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Single exon nucleic acid probes brains -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human brain expressed single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 4; SEQ ID NO: 1774; 650pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30-JAN-2001; 2001WO-US00667
                                                                                                                                             347
                                                    287
                                                                                                                                                                                                                                               407
                                                                                                                                                                                                                                                                                           562
                                                                                                                                                                                                                                                                                                                                            467
                                                                                                                                                                                                                                                                                                                                                                      502 AGGAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGA 561
                                                                                                                                          CAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAA
                                                                                                                                                                                                                                          ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAG
                                                                                                                                                                                                                                                                       *ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAG
                                                                                                                                                                                                                                                                                                                                         AGGAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGA 408
                                                                                                                                                                                                                                                                                                                                                                                                                                         tch 33.2%; al Similarity 100.0%; 467; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULAR DYNAMICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hanzel DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           n expressed exon; gene expression analysis; probe;
Alzheimer's disease; multiple sclerosis; schizophrenia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; 2000US-0180312.
2000US-0207456.
2000US-0608408.
2000US-0632366.
2000US-0234687.
2000US-0234359.
2000US-0236359.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chen W,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    487
                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 467; DB 22;
Pred. No. 2.4e-55;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        98 G; 138 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rank
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        for analyzing gene expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 probe
```

'n

human

Query Match Best Local S Matches 467

Sequence

Ъ

Length 487; Indels

0;

Gaps

0,

681 288

621

Š 망 δ 밁 δ

δ БР δ 밁 δõ B δÃ 밁 δÃ

922 107 862 167 802 227 742 287 682 347 622 407 562 467 502

47

```
RESULT 9
AAK277339/
ID AAK2
XX AAK27A39/
AC AAK2
XX Huma
XX Huma
XX Huma
XX Homc
XX WO2C
XX WO2C
XX WO2C
XX O9-1
XX O9-1
PF 30-1
XX WPI
XX WP
                                       Q
  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                Query Match
Best Local S
Matches 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    04-FEB-2000;
26-MAY-2000;
30-JUN-2000;
03-AUG-2000;
21-SEP-2000;
27-SEP-2000;
04-OCT-2000;
                                                                                                                                                                                                       probes which are derived from genomic sequences expressed in the human bone marrow. They can be used to measure gene expression in bone marrow samples, which may enable the improved diagnosis and treatment of cancers such as lymphoma, leukaemia and myeloma. The present sequence is one of the probes of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7239/c
AAK27239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Penn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            microarray;
                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200157276-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human bone marrow
                                                                                                                                                                                                                                                                                                                                                           Example
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (MOLE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30-JAN-2001; 2001WO-US00668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    09-AUG-2001.
                   502 AGGAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGA 561
  467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGGAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTTT
                                                                                  al Similarity
467; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                MOLECULAR DYNAMICS
                                                                                                                                                                     487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hanzel
                                                                                                                                                                                                                                                                                                                                                         SEQ ID
                                                                              33.2%;
nilarity 100.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; 2000US-0207456.
; 2000US-0608408.
; 2000US-0632366.
; 2000US-0234687.
; 2000US-0236359.
; 2000US-0236359.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        marrow expressed exon; gene expression analysis; probe; cancer; leukaemia; lymphoma; myeloma; ss.
                                                                                                                                                                                                                                                                                                             invention provides a number of single exon nucleic
                                                                                                                                                                  ВP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0180312.
                                                                                                                                                                  154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DK,
                                                                                                                                                                                                                                                                                                                                                           NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         expressed single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA;
                                                                                                                                                                Α,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chen
                                                                                                                                                                                                                                                                                                                                                  1796; 658pp + Sequence Listing;
                                                                                                                                                                  97
                                                                                                                                                                  Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ę
                                                                                Score 467; DB
; Pred. No. 2.4
0; Mismatches
                                                                                                                                                                  98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rank
                                                                                                                                                                  G; 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         exon
                                                                                                                                                                T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       probe SEQ
                                                                                                                           DB
                                                                              2.4e-55;
s 0;
                                                                                                                       Length 487;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  968
                                                                                                                                                                                                                                                                                                                                                       English.
                                                                                                                                                                                                                                                                                                             acid
                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  921
                                                                                0
```

```
RESULT 10
AAII1818/c
ID AAII1818;

XX
AAII1818;

XY
AC
AAII1818;

TOT 12-OCT-2001 (first
XX
CETVICAL Cancer; SS.
CANCERCAN, AND CANCER; human; microa
XX
HOMO sapiens.
XX
HOMO sapiens.
XX
HOMO Sapiens.
XX
OS HOMO Sapiens.
XX
O9-AUG-2001.
200157278-A2.
XX
PD 09-AUG-2001; 2001WO-
PR 21-SEP-2000; 2000US-
PR 21-SEP-2000; 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ΩĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTTGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2001-488901/53.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           genome-derived single
                                                                                                                                                                                                                                                                                                  MOLECULAR DYNAMICS
                                                                                                                                                                                                                                                                                                                                     2000US-0207456
2000US-0608408
2000US-0632366
2000US-0234687
2000US-0234687
2000US-0234687
2000US-02346359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0180312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2001WO-US00670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              microarray;
                                                                                                                                                    expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gene
                                                                                                                                                                                                                                                       DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     expression analysis in
                                                                                                                                                                                                                                                            Chen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene
                                                                                                                                                    ĺn
                                                                                                                                                                                                                                                            Σ
                                                                                                                                                                          exon
                                                                                                                                                      human
                                                                                                                                                                                                                                                            Rank
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                expression;
                                                                                                                                                                          nucleic acid
                                                                                                                                                    cervical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cervical
                                                                                                                                                  id probes useful for epithelial cells -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human cervical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                epithelial cell;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            348
```

The present invention relates to human single exon nucleic acid probes (SEMP). The present sequence is one such probes. The SEMPs are derived from human HeLa cells. The SEMPs can be used to produce a single exon microarray, which can be used for measuring human gene expression in a

acid probes are derived

No

487pp;

English.

```
RESULT ALL STATE OF THE STATE O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 90
40
40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 당양
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δδ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
    04-FEB-
26-MAY-
30-JUN-
03-AUG-
21-SEP-
27-SEP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sample derived from human cervical epithelial cells. By measuring gene expression, the probes are therefore useful in grading and/or staging of diseases of the cervix, notably cervical cancer. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at fig. wipo.int/pub/published_pct_sequences.
                                                                                                                                                                          09-AUG-2001.
                                                                                                                                                                                                                                                                                    genetic
                                                                                                                                  30-JAN-2001;
                                                                                                                                                                                                           WO200157272-A2
                                                                                                                                                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                                           Probe
                                                                                                                                                                                                                                                                                                                                                                              17-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAI33136 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTGGTTTATAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACC 968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAACAGCTGGTGGTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTATTCCCTTGACTCAAGACAGCTAACTTCATTTCAGAACTGTTTTAAACCTTTGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    11 Similarity
467; Conserv
      3-2000;
4-2000;
3-2000;
5-2000;
                                                                                                                                                                                                                                                                                                                                    #1822 used to measure gene expression in human placenta sample.
                                                                                                                                                                                                                                                                                    microarray; human; placenta; antenatal diagnosis;
c disorder; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             487
2000US-0180312.
2000US-0207456.
2000US-0608408.
2000US-0632366.
2000US-0234687.
2000US-0236359.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                33.2%; Scilarity 100.0%; F
Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BP; 154 A; 97 C; 98 G; 138 T; 0 other;
                                                                                                                                    2001WO-US00663.
                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       487
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 467; DB 22; ; Pred. No. 2.4e-55; 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 487;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
```

```
ARESULT 1:
AANO1752
ID AAI(
XX
XX
AC AAI(
XX
AC AAI(
XX
XX
DT 09-C
XX
XX
CB Prob
XW
Frob
XW
AN infi
XX
OS Homm
                                                                                                                                                                          밁
                                                                                                                                                                                          Qy
                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                           ₽
                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                  γΩ
                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 467
                                                                                                                         1752/c
AAI01752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The present invention relates to single exon nucleic acid probes (SENP). The present sequence is one such probe. The probes are useful for producing a microarray for predicting, measuring and displaying gene expression in samples derived from human placenta. The probes are useful for antenatal diagnosis of human genetic disorders.
                              Probe; human; inflammatory
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human genome-derived single exon nucleic acid analyzing gene expression in human placenta -
                                                           Probe #1743 used to measure gene expression in human breast sample.
                                                                                  09-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (MOLE-) MOLECULAR DYNAMICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           04-OCT-2000; 2000GB-0024263
                                                                                                                                                                                                                                                                                                                                                                                                                                                               467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   502
                                                                                                                                                                                            922
                                                                                                                                                                                                                  107
                                                                                                                                                                                                                                     862
                                                                                                                                                                                                                                                         167
                                                                                                                                                                                                                                                                            802
                                                                                                                                                                                                                                                                                                227
                                                                                                                                                                                                                                                                                                                    742
                                                                                                                                                                                                                                                                                                                                         287
                                                                                                                                                                                                                                                                                                                                                             682
                                                                                                                                                                                                                                                                                                                                                                                 347
                                                                                                                                                                                                                                                                                                                                                                                                                         407
                                                                                                                                                                                                                                                                                                                                                                                                                                            562
                                                                                                                                                                          47
                                                                                                                                                                          CTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACC
                                                                                                                                                                                                                             TTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTGTGTG
                                                                                                                                                                                                                                                                    CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTT
                                                                                                                                                                                                                                                                                              ATGTAGAACAGTCTTTCATGACGATGCCAGCTGAGATTAAAAAGGCAATGGGTCCCGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGGANTITICCTGANTICCCTTGGANTICCGTTTTTGGANACCAGTGCTAAGANTGCAACGA
                                                                                                                                                                                                                                                          CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      al Similarity
467; Conserv
                                                                                                                         standard; DNA; 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID No 1822; 654pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hanzel DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     33.2%; Score 467; DB 22; llarity 100.0%; Pred. No. 2.4e-55; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BP; 154 A; 97 C; 98 G; 138 T; 0 other;
                               disease;
                                                                                 (first entry)
                              breast disease; breast cancer; develo
disease; proliferative breast disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    W, Rank
                                                                                                                         ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DR.
                               development disorder;
isease; non-carcinoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          probes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 487;
                                                                                                                                                                                              968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                               408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   561
                                                                                                                                                                                                                  48
                                                                                                                                                                                                                                     921
                                                                                                                                                                                                                                                          108
                                                                                                                                                                                                                                                                             861
                                                                                                                                                                                                                                                                                                 168
                                                                                                                                                                                                                                                                                                                    801
                                                                                                                                                                                                                                                                                                                                         228
                                                                                                                                                                                                                                                                                                                                                            741
                                                                                                                                                                                                                                                                                                                                                                                 288
                                                                                                                                                                                                                                                                                                                                                                                                    681
                                                                                                                                                                                                                                                                                                                                                                                                                       348
                                                                                                                                                                                                                                                                                                                                                                                                                                           621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      o;
```

WO200157270-A2

```
밁
                  δÃ
                                          В
                                                           Qy
                                                                                       밁
                                                                                                       δÕ
                                                                                                                            밁
                                                                                                                                                 Qy
                                                                                                                                                                          밁
                                                                                                                                                                                           Qy
                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     04-FEB-2000;
26-MAY-2000;
30-JUN-2000;
03-AUG-2000;
21-SEP-2000;
27-SEP-2000;
04-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                          The present invention relates to novel single exon nucleic acid probes. The present sequence is one such probe. The probes are useful for measuring human gene expression in a human breast sample, where the prohybridises at high stringency to a nucleic acid expressed in the human breast. The probes are useful for predicting, diagnosing, grading, staging, monitoring and prognosing diseases of the human breast, particularly those diseases with polygenic aetiology. The diseases include: breast cancer, disorders of development, inflammatory diseases of the breast thorocystic changes, proliferative breast disease and non-carcinoma tumours.
                                                                                                                                                                                                                                                                                                                                                                           Note: The sequence data for this patent did not specification, but was obtained in electronic for at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Penn
                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MOLE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29-JAN-2001;
  107
                                                                                                                                                                                                                                                                 467
                                                                                                                                                                                                                                                                                       502
                                           167
                                                                                        227
                                                                                                                                                       682
                                                                                                                                                                            347
                                                                                                                                                                                                  622
                                                                                                                                                                                                                        407
                                                                                                                                                                                                                                             562
                                                                                                                                  287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                      CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTTT
                                                                                                                                                                          AGGAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGA
                                                                                                                                                                                                                                                                                     AGGAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGA 561
          TTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTTGTGTG
                                                                                                  CAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        human
TTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTGTGTG
                                          CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTTT
                                                                                                                                CAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAA
                                                                                                                                                                                                                                          ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAG
                                                                                    467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      single exon
human breast
                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULAR DYNAMICS INC
                                                                                                                                                                                                                                                                                                                                                       487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0180312.
2000US-0207456.
2000US-0608408.
2000US-0632366.
2000US-0234687.
2000US-0236359.
2000US-0024263.
                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                       B₽;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2001WO-US00661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IJ
                                                                                                                                                                                                                                                                                                                                                       154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No 1743; 322pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nucleic
                                                                                                                                                                                                                                                                                                                                                      Α;
                                                                                                                                                                                                                                                                                                                      100.0%;
                                                                                                                                                                                                                                                                                                                                 33.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chen
                                                                                                                                                                                                                                                                                                                                                       97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 acid
                                                                                                                                                                                                                                                                                                                                                      Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ę
                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                     Score 467;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                       98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rank
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 probe used to
                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                      G; 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DR
                                                                                                                                                                                                                                                                                                                                                      Τ;
                                                                                                                                                                                                                                                                                                                      2.4e-55;
                                                                                                                                                                                                                                                                                                                                  DB
                                                                                                                                                                                                                                                                                                                                                      0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                measuring
                                                                                                                                                                                                                                                                                                            0,
                                                                                                                                                                                                                                                                                                                                                                                     format
                                                                                                                                                                                                                                                                                                                                                                                                form
                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                               part
                                                                                                                                                                                                                                                                                                                                                                                     directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                                                                                 487;
                                                                                                                                                                                                                                                                                                                                                                                               of the printed
                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 expression
                                                                                                                                                                                                                                                                                                                                                                                                                               diseases
                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           probes.
48
                                                                                                                                                    741
                                                                                                                                                                                                681
                                                                                                                                                                                                                      348
                                                                                                                                                                                                                                          621
                                         108
                                                                                     168
                                                                                                                                228
                                                                                                                                                                           288
                                                                                                                                                                                                                                                                                                          0;
```

ŧ,

```
RESULT 13
ABSO1772/c
ID ABSO1772/c
ID ABSO1772/c
ID ABSO1772/c
ID ABSO172/c
ID Human
IN WW Chron
IN WW Ch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
The invention relates to a spatially-addressable set of single exon concleic acid probes for measuring gene expression in a sample derived from human lung comprising single exon nucleic acid probes having one of consider the last of sequences mentioned in the specification, or their complements or the 1287 open reading frames derived from the 12614 probes. Also included are a microarray comprising the novel set of probes which hybridise at high stringency to a concleic acid expressed in the human lung; measuring gene expression in a complement of detectably labeled nucleic acids derived from human lung comprising (a) contacting the array with a collection of detectably labeled nucleic acids derived from human lung measuring gene expression in a collection of detectably labeled nucleic acids derived from human lung measuring the array; identifying exons in a eukaryotic genome, comprising comparising comparising the label detectably bound to each probe of the array; identifying exons in a eukaryotic genome, comprising comparising comparising exons in a eukaryotic genome, comprising comparising comparising exons in a eukaryotic genome, comprising comparising comparising exons from genomic sequences comparising a fragment identical to the predicted exon, the probe is included comparising (a) identifying exons from genomic sequence by the method above and (b) measuring the expression of each of the exons in several comparising the expression of each of the exons in several comparising the expression of each of the exons in several comparising the expression of each of the exons in several comparising the expression of each of the exons in several comparising the expression of each of the exons in several comparising the expression of each of the exons in several comparising the expression of each of the exons in several comparising the expression of each of the exons in several comparising the expression of each of the exons in several comparising the expression of each of the exons in several comparising the expres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hermansky-Pudlak syndrome; sarcoidosis; pulmonary haemosiderosis; pulmonary histiccytosis; lymphangioleiomyomtosis; karagener syndrome; pulmonary alveolar proteinosis; fibrocystic pulmonary dysplasia; primary ciliary dyskinesis; pulmonary hypertension;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Spatially-addressable set of single exon nucleic acid measure gene expression in human lung samples -       
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; ds; single exon probe; asthma; lung cancer; COPD; ILD chronic obstructive pulmonary disease; interstitial lung disfamilial idiopathic pulmonary fibrosis; neurofibromatosis; tuberous sclerosis; Gaucher's disease; Niemann-Pick disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           04-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-SEP-2000;
27-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       03-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    04-FEB-2000;
26-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30-JAN-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200186003-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABS01772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (MOLE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                genome-derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   standard; DNA; 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hanzel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-180312P.
2000US-207456P.
2000US-0608408.
2000US-0632366.
2000US-234687P.
2000US-236359P.
2000US-236359P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2001WO-US00665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DYNAMICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1763; 634pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Chen W,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rank
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                probe from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                lung
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ب
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       probes,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ç
```

```
cc expression of the exons in the tissues and/or cell types indicates that cf the exons should be assigned to a single gene; a peptide comprising one of 12011 sequences, mentioned in the specification, or encoded by the cc probes/open reading frames (ORF). The probes are used for gene cc expression analysis, and for identifying exons in a gene, particularly cc using human lung derived mRNA and for the study of lung diseases cs using human lung derived mRNA and for the study of lung diseases cc (COPD), interstitial lung disease (ILD), familial idiopathic pulmonary cf (COPD), interstitial lung disease (ILD), familial idiopathic pulmonary cc fibrosis, neurofibromatosis, tuberous scherosis, Gaucher's disease, cc haemosiderosis, pulmonary histocytosis, syndrome, sarcoidosis, pulmonary cc haemosiderosis, pulmonary histocytosis, syndrome, fibrocystic pulmonary alveolar proteinosis, Karagener syndrome, fibrocystic cand hyaline membrane disease. The present sequence is a single exon cc probe of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
Matches 467; Conservat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 487 BP; 154 A; 97 C; 98 G; 138 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   802 CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTTT 861
                                                                                                                                                                                       AAC06621 standard; cDNA; 335 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 742
Human; 5' EST; expressed sequence tag; secreted protein; cDNA isolation; gene therapy; chromosome mapping; ss.
                                                              Human secreted protein 5' EST, SEQ ID NO: 10696.
                                                                                                            06-OCT-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                          107
                                                                                                                                                                                                                                                                                                                                                                                                                                                           167
                                                                                                                                                                                                                                                                                               47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACC 1
                                                                                                                                                                                                                                                                                                                TTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTGTGTG 921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      33.2%; Score 467; DB 24; Length 487; illarity 100.0%; Pred. No. 2.4e-55; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
```

Qy Вþ γQ

QΥ 밁

ρ g ρ В

80 밁

В δÃ В

OS XXX DE XXX DE

ABV14061;

```
The present sequence is one of a large number of 5' ESTS derived from CC mRNAs encoding Secreted proteins. No ORF has yet been conclusively cleantified within the present sequence. The 5' ESTS were prepared from CC identified within the present sequence. The 5' ESTS were prepared from CC total human RNAs or polyA+ RNAs derived from 3' untranslated region (UTR) CC sequences usually correspond mainly to the 3' untranslated region (UTR) CC of the mRNA because they are often obtained from oligo-dT primed cluna CC libraries. Such ESTS are not well suited for isolating cDNA sequences CC cerived from the 5' ends of mRNAs and even in those cases where longer CC codnA sequences have been obtained, the full 5' UTR is rarely included. CC codnA sequences have been obtained, the full 5' UTR is rarely included company to the sective of from mRNAs with intact 5' ends and can therefore be company to the section of the secti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
RESULT 15
ABV14061/c
ID ABV140
XX
AC ABV140
XX
                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                    рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            06-SEP-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EP1033401-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-FEB-2000; 2000EP-0200610.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New nucleic acid that is a 5' expressed sequence tag (5' EST) for obtaining cDNAs and genomic DNAs that correspond to 5'ESTs and for diagnostic, forensic, gene therapy and chromosome mapping procedures -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dumas Milne Edwards J, Duclert A, Giordano J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; SEQ ID 10696; 71pp + CD-ROM; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2000-500381/45.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (GEST ) GENSET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 335 BP; 96 A; 70 C; 56 G; 109 T; 4 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABV14061 standard; cDNA; 406 BP
                                                                                                                                                                           826
                                                                                                                                                                                                                                                                                        886 AACTTCATTTTCAGAACTGTTTTAAAACCTTTGTGCTGGTTTATAAAATAATGTGTGTTA 945
                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                241 AACTTCATTTTCAGAACTGTTTTAAACCTTTGTGTGTGCTGTTTATAAAATAATGTGTGTA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Match 23.7%; Score 333.4; DB:
Local Similarity 98.8%; Pred. No. 3.6e-37
Es 331; Conservative 4; Mismatches
                                                                                                                                                                                                                                                                                                                                                         DB_21; Length 335;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels 0; Gaps
```

0;

```
οy
                              В
                                                  QΥ
                                                                                       В
                                                                                                                 δÃ
                                                                                                                                                  ₽
                                                                                                                                                                         δ
                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                   QΥ
                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Simi
Matches 264;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         17-FEB-2000;
16-MAR-2000;
25-MAY-2000;
09-JUN-2000;
18-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to an isolated nucleic acid molecule (I) comprising a nucleotide sequence given in Tables 1-9 (ABV00010-ABV62213) of the specification or its complement. (I) is useful for:

(a) assessing whether a patient is afflicted with prostate cancer;
(b) monitoring the progression of prostate cancer in a patient;
(c) assessing the efficacy of a test compound to inhibit prostate cancer in a patient;
(d) assessing the efficacy of a therapy for inhibiting prostate cancer in a patient;
(e) selecting a composition for inhibiting prostate cancer in a patient;
(f) assessing the prostate cell carcinogenic potential of a compound;
(g) determining whether prostate cancer has metastasized in a patient;
(h) assessing the aggressiveness or indolence of prostate cancer in a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel isolated nucleic acid molecule associated with cancerous state of prostate cells and correlating with presence of prostate cancer, useful for detecting presence of prostate cancer, stage of prostate cancer -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo
                                                                                                                                                                                                                                                                                                                                 Sequence 406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 1; Page 2343-2344; 11750pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Schlegel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (MILL-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20-FEB-2001; 2001WO-US05171.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200160860-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; prostate pharmacogenomic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13-SEP-2002
                                                             869
                                                                                                                                                                                                                                         518
 758 AAAACAAATTGCCTGAATTGTAC 781
                                226
                                                                                          286
                                                                                                                                                   346
                                                                                                                                                                               578
                                                                                                                                                                                                            406
                                                                                                                                                                                                                          CCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGAATGTAGAACAGTCTTT 577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sapiens
                             CTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAATCTGAACCCAAGTGAA
                                            CTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAATCTGAACCCAAGTGAA 757
                                                                                      CATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGCAACAGCTGGTGGTGC 637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2001-662795/76.
                                                                                                                                                  CATGACGATGGCAGCTGAGATTAAAAAAGCGAATGGGTCCCGGAGCAACAGCTGGTGGTGC
                                                                                                                                                                                                            CCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGAATGTAGAACAGTCTTT 347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 prostate
                                                                                                                                                                                                                                                                                                                                                          also useful as a pharmacodyanamic or pharmacogenomic marker.
                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MILLENNIUM PREDICTIVE MEDICINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-183319P.
2000US-189862P.
2000US-207454P.
2000US-211314P.
2000US-219007P.
2000US-255281P.
                                                                                                                                                                                                                                                                    18.8%; Score 264; DE llarity 100.0%; Pred. No. 9.7 Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                              BP; 104 A; 99 C; 92 G; 111 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Endege WO,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 expression marker cDNA 14052.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cancer; cytostatic; carcinogen;
marker; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Monahan
                                                                                                                                                                                                                                                                  Score 264; DB 23; Pred. No. 9.7e-28; Pred. No. 9.7e-28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pharmacodyanamic marker;
                                                                                                                                                                                                                                                                                               Length 406;
                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                  Gaps
                                                                                       227
                                                                                                                    697
                                                                                                                                                  287
                                                                                                                                                                                                                                                                     0;
```

Db 166 AAAACAAAATTGCCTGAATTGTAC 143

Search completed: November 17, 2002, 11:42:33 Job time: 261 secs

Title: .
Perfect score:
Sequence:

US-09-820-003A-1 1405 1 aagcgatagctgag

table:

IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

OM nucleic

1

nucleic search, using sw

GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd.

on:

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Total number of

hits satisfying chosen parameters:

328367 seqs, 184756068 residues

Post-processing:

Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database

```
Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Published_Applications_NA:*

1: /cgn2_6/ptodata/2/pubpna/US07_PUBCOMB.seq:*

2: /cgn2_6/ptodata/2/pubpna/PCT_NEW_PUB.seq:*

3: /cgn2_6/ptodata/2/pubpna/US06_NEW_PUB.seq:*

4: /cgn2_6/ptodata/2/pubpna/US06_NEW_PUB.seq:*

5: /cgn2_6/ptodata/2/pubpna/US06_NEW_PUB.seq:*

6: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq:*

7: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq:*

8: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq:*

9: /cgn2_6/ptodata/2/pubpna/US09_NEW_PUB.seq:*

10: /cgn2_6/ptodata/2/pubpna/US09_NEW_PUB.seq:*

11: /cgn2_6/ptodata/2/pubpna/US09_NEW_PUB.seq:*

11: /cgn2_6/ptodata/2/pubpna/US09_NEW_PUB.seq:*

13: /cgn2_6/ptodata/2/pubpna/US00_NEW_PUB.seq:*

14: /cgn2_6/ptodata/2/pubpna/US00_NEW_PUB.seq:*

14: /cgn2_6/ptodata/2/pubpna/US00_NEW_PUB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   November 17, 2002, 11:37:22; Search time 60 Seconds (without alignments) 8652.743 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Description
  sequence
  1, Appli
37, Appli
37, Appl
374, Appl
374, Appl
374, Appl
5427, App
8911, Ap
8911, Ap
8911, Appl
337, Appl
337, Appl
337, Appl
34, Appli
84, Appli
86, Appli
86, Appli
86, Appli
87, Appli
88, Appli
89, Appli
80, Appli
81, Appli
81, Appli
82, Appli
83, Appli
84, Appli
85, Appli
86, Appli
87, Appli
88, Appli
88, Appli
88, Appli
88, Appli
89, Appli
89, Appli
80, Appli
81, Appli
81, Appli
81, Appli
81, Appli
82, Appli
83, Appli
84, Appli
86, Appli
86, Appli
87, Appli
88, Appli
89, Appli
80, Appli
80, Appli
80, Appli
81, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1. Application US/09820003A
Patent No. US20020142382A1
GENERAL INFORMATION:
GENERAL INFORMATION: ISOLATED HUMAN RAS-LIKE PROTEINS,
TITLE OF INVENTION: ISOLATED HUMAN RAS-LIKE PROTEINS,
TITLE OF INVENTION: PROTEINS, AND USES THEREOF
FILLE REFERENCE: CLOOL196
CURRENT APPLICATION NUMBER: US/09/820,003A
CURRENT FILING DATE: 2001-03-29
NUMBER OF ESQ ID NOS: 39
NUMBER OF ESQ ID NOS: 39
SOFTWARE: FastEEQ for Windows Version 4.0
SEQ ID NO 1
LENGTH: 1405
TYPE: DNA
ORGANISM: Homo sapien
US-09-820-003A-1
                         Š
                                                                           DЪ
                                                                                                                δÃ
                                                                                                                                                                    망
                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                뫄
                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                  Вþ
                                                                                                                                                                                                                                                                                                                                                                                                              Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 1
US-09-820-003A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 1405; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                             181
                                                                                                  181 TGTCCAGCATGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGACTCAG
                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                  144.6
134.8
118.2
1116.6
1116.6
1116.6
1116.7
1116.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
1110.4
110.4
110.4
110.4
110.4
110.4
110.4
110.4
110.4
110.4
110.4
1
                                                                                                                                                                                                                                                                   GGGTTGGAAAGTCTTGCCTTCTTCTTAGGTTTGCAGATACATATACAGAAAGCTACA
                                                                           TGTCCAGCATGAATCCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGACTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; (ilarity 100.0%; (conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10 US-09-960-352-433
10 US-09-70-445-529
110 US-09-710-445-529
110 US-09-878-574-365
110 US-09-878-574-2409
110 US-09-878-574-2409
110 US-09-878-574-3795
110 US-09-878-574-3795
110 US-09-960-352-11234
110 US-09-960-352-15014
110 US-09-960-352-15014
110 US-09-960-352-15014
110 US-09-960-352-15014
110 US-09-960-352-1788
110 US-09-960-352-1788
110 US-09-960-352-1789
110 US-09-978-574-9827
110 US-09-987-874-9827
110 US-09-987-874-9827
110 US-09-987-873-230
110 US-09-987-873-230
110 US-09-989-723-230
110 US-09-989-723-230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 1405; DB 10;
Pred. No. 1.4e-186;
; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1405;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 43, App
Sequence 832, App
Sequence 529, App
Sequence 315, App
Sequence 3165, App
Sequence 3765, App
Sequence 3794, App
Sequence 3794, App
Sequence 417, App
Sequence 4582, Ap
Sequence 15014, Ap
Sequence 15014, Ap
Sequence 296, Ap
Sequence 296, Ap
Sequence 297, App
Sequence 33, App
Sequence 33, App
Sequence 37, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                   60
```

Result No.

Score

Query Match Length

DВ

Ä

0

SUMMARIES

C

1405 817.2 589.8 506 506 467 337.2 337.2 314.8 212.8 222.8 212.8 219.8 219.8 219.8 219.8 219.8

US-09-820-003A-1 US-09-820-003A-3 US-09-820-003A-3 US-09-820-003A-37 US-09-920-300A-374 US-10-033-528-374 US-10-035-5427 US-09-60-352-8911 US-09-60-352-8911 US-09-60-352-8911 US-09-904-093B-4584 US-09-924-093B-4584 US-09-924-093B-4584 US-09-924-093B-4584 US-09-924-033A-36 US-09-924-033A-36 US-09-910-689-84 US-09-910-689-84 US-09-957-736-4 US-09-967-736-1849 US-09-968-4761-1849 US-09-960-032A-9508

```
밁
           δõ
                        밁
                                δ
                                           Вb
                                                    δ
                                                                В
                                                                           Š
                                                                                       밁
                                                                                               δÃ
                                                                                                         밁
                                                                                                                    δ
                                                                                                                                 밁
                                                                                                                                        Qy
                                                                                                                                                   g
VQ
                                                                                                                                                                           β
δ
                                                                                                                                                                                               밁
                                                                                                                                                                                                       δ
                                                                                                                                                                                                                 В
                                                                                                                                                                                                                           γQ
                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                   β
δ
                                                                                                                                                                                                                                                                                                     g
VQ
                                                                                                                                                                                                                                                                                                                         P Q
                                                                                                                                                                                                                                                                                                                                              8
80
80
                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                           밁
1141
                                                                             1141
                                                        1201
                                                                                        1081
                                                                                                  1081
                                                                                                             1021
                                                                                                                       1021
                                              1201
                                                                                                                                  961
                                                                                                                                            961
                                                                                                                                                       901
                                                                                                                                                                 901
                                                                                                                                                                           841
                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                     199
                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                      841
                                                                                                                                                                                                781
                                                                                                                                                                                                                     721
                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                          781
                                                                                                                                                                                                                                                                                                                                                                                           241
                                            CCAGTGCTAAGAATGCAACGAATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTA
                                                                                                                                                                                                                                                                                                       TCAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATCA
                              TATGTAACAAAACAACTGAAGATATGTTTAATAAATATTGTACTTATTGGAAGTAAAAAA
                                                                                      CTGTATGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAA
                                                                                                                                                                                                                          CTCACAGCAATGAATTTGCAATCTGAACCCAAGTGAAAAAACAAAATTGCCTGAATTGTA
                                                                                                                                                                                                                                         AAAAGCGAATGGGTCCCGGAGCAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTC
                                                                                                                                                                                                                                                                                                                           TATGTAACAAAACAACTGAAGATATGTTTAATAAATATTGTACTTATTGGAAGTAAAAAA
                                                                                                                                                                                                                    CTCACAGCAATGAATTTGCAATCTGAACCCAAGTGAAAAAAACAAAATTGCCTGAATTGTA
                                                                                                                                                                                                                                                                                                                                                      AGCTTCAAATAGAGTCCTTCAATAATGTTAAACAGTGGCTGCAGGAAATAGATCGTTATG
                                                                                                                                                                                                                                                                                                                                                                                           GGGTTGGAAAGTCTTGCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTACA
                                                                                                                                                                                                                                                                                                                                                 AGCTTCAAATAGAGTCCTTCAATAATGTTAAACAGTGGCTGCAGGAAATAGATCGTTATG
                                                                                                                       1080
                                             1260
                                                                                                 1140
                                                                                                                                 1020
                                                                                                                                           1020
                                                                                                                                                      960
                                                                                                                                                                                                                                                                                                                                      480
                                                                                                                                                                960
                                                                                                                                                                                    900
                                                                                                                                                                                                          840
                                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                              660
                                                                                                                                                                                                                                                                        660
                                                                                                                                                                                                                                                                                             600
                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                      360
                                                        1260
                                                                                                                                                                           900
                                                                                                                                                                                                840
                                                                                                                                                                                                                    780
                                                                                                                                                                                                                                         720
                                                                                                                                                                                                                                                                                   600
```

```
Sequence 3, Application US/09820003A

Patent No. US20020142382A1

GENERAL INFORMATION:

APPLICANT: MERKULOV, Gennady et al.

TITLE OF INVENTION: ISOLATED HUMAN RAS-LIKE PROTEINS,

TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING THE

TITLE OF INVENTION: PROTEINS, AND USES THEREOF

FILE REFERENCE: CL001196

CURRENT APPLICATION NUMBER: US/09/820,003A

CURRENT FILING DATE: 2001-03-29

NUMBER OF SEQ ID NOS 39

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                       ; ORGANISM: Homo sapien
; FEATURE:
; NAME/KEY: misc_feature
; LOCATION: (1)...(46050)
; OTHER INFORMATION: n = A
US-09-820-003A-3
 밁
             δδ
                                В
                                               Qγ
                                                                 g
                                                                               Š
                                                                                                  B
                                                                                                                 Qy
                                                                                                                                   망
                                                                                                                                                Qy
                                                                                                                                                                   B
                                                                                                                                                                                 ΩV
                                                                                                                                                                                                    망
                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                    QY
                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                    ρy
                                                                                                                                                                                                                                                                                                       Ъ
                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 2
US-09-820-003A-3
                                                                                                                                                                                                                                                                                                                                      Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
                                                                                                                                                                    43478
                                                                                                                                    43538
                                                                                                                                                                                                     43418
                                                                                                                                                                                                                                                                                                        43238
 43778
                                  43718
                                                                                                                                                                                                                                       43358
                  1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1381
                                                                                  922
                                                                                                                                                    802
                                                                                                                                                                                                                     682
                                                                                                                                                                                                                                                                                       562
                                                                                                                                                                                                                                                                                                                       502
                                                                                                                                                                                      742
                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                        Match
                                                                                                                                                                                                    AGGAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACCAGACTGTTTCCCG
                                                                                                                                  ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAG
cal Similarity
819; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                46050
                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                              58.2%;
                                                                                                                                                                                                                                                                                                                                                                                A,T,C
                                                                                                                                                                                                                                                                                                                                      Score 817.2; DB 10, Pred. No. 2.7e-105; 0; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1405
                                                                                                                                                                                                                                                                                                                                                       10;
                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  THESE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HUMAN
                                                                                                                                                                                                                                                                                                                                       0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RAS-LIKE
                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                       43297
                  1101
                                                  1041
                                                                                                    43657
                                                                                                                                                                                                                                                                                      621
                                                                                                                                                                                                                                                                                                                       561
                                                                                                                    921
                                                                                                                                                     861
                                                                                                                                                                      43537
                                                                                                                                                                                      801
                                                                                                                                                                                                      43477
                                                                                                                                                                                                                     741
 43837
                                  43777
                                                                   43717
                                                                                   981
                                                                                                                                     43597
                                                                                                                                                                                                                                      43417
                                                                                                                                                                                                                                                                        43357
                                                                                                                                                                                                                                                                                                                                        0
```

```
밁
                     Š
                                                          밁
                                                                                       Š
                                                                                                                          밁
                                                                                                                                                     Qγ
                                                                                                                                                                                      B
                                                                                                                                                                                                                     γ
                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                     ρy
                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                     Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                      뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 3
US-09-820-003A-37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         р
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: Homo sapien US-09-820-003A-37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 37, Application US/09820003A
Patent No. US20020142382A1
GEMERAL INFORMATION:
APPLICANT: MERKULOV, Gennady et al.
TITLE OF INVENTION: ISOLATED HUMAN RAS-LIKE PROTEINS,
TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING THESE HUMAN RAS-LIKE
TITLE OF INVENTION: PROTEINS, AND USES THEREOF
FILE REFERENCE: CLO01196
FILE REFERENCE: CLO01196
FILE REFERENCE: CLO01196
FURRENT FILING DATE: 2001-03-29
NUMBER OF SEQ ID NOS: 39
SOFTMARE: FASTSEQ FOR WINDOWS Version 4.0
SEQ ID NO 37
LENGTH: 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 591;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             44018 ATATGTTTAATAAATATTGTACTTATTGGAAGTAATATCAAA 44059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             43838 TTTCCATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCTGATTTGCTAGTTCTTCCT
                               1149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1102 TTTCCATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCTGATTTGCTAGTTCTTCCT 1161
                                                                                                                                                               1029
                                                                                               1089
                                                                361
                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                               849
421
                                                                                                                                301
                                                                                                                                                                                              241
                                                                                                                                                                                                                               969
                                                                                                                                                                                                                                                                                               909
                                                                                                                                                                                                                                                                                                                                                                                                                             789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               729 AATGAATTTGCAATCTGAACCCAAGTGAAAAAAAAATTGCCTGAATTGTACTGTATGT 788
                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 AATGAATTTGCAATCTGAACCCAAGTGAAAAAAACAAAATTGCCTGAATTGTACTGTATGT 60
             GCTAGTTCTTCCTTGTAGAGTTATAAATGGAAAGATTACACTATCTGATTAATAGTTTCT
                                                          AGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCCATTTTGTATCAAACAGCACAAG 1088
                                                                                                                                                                                                             AGACTGTTTCCCCGTGGTTGGTTAGAATATATTTTGTTTTGATGTTTATATTTGCCATGTTT 1028
                                                                                                                                                                                                                                                              AAACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACC 240
                                                                                                                                                                                                                                                                               AAACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACC 968
                                                                                                                                                                                                                                                                                                                                                 ACTGACTITTTTTTTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTT 908
                                                                                                                                                                                                                                                                                                                                                                                                               AGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAAT 848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTAGAGTTATAAATGGAAAGATTACACTATCTGATTAATAGTTTCTTCATACTCTGCAT 43957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGTAGAGTTATAAATGGAAAGATTACACTATCTGATTAATAGTTTCTTCATACTCTGCAT
                                                                                                                              RGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCCATTTTGTATCAAACAGCACAAG
                                                                                                                                                                                              AGACTGTTTCCCGTGGTTAGAATATATTTTGTTTTGATGTTTTATATTGGCATGTTT 300
                                                                                                                                                                                                                                                                                                                              ACTGACTTTTTTTTTTTTTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTT 180
                                                                                                                                                                                                                                                                                                                                                                                            AGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAAT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATAATTTGTGGCTGCAGAATATTGTAATTTGTTGCACACTATGTAACAAAACAACTGAAG 44017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           42.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 589.8; DB 10; Length 601; Pred. No. 6.1e-74; 1; Mismatches 3; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                           1148
                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1221
                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             43897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0,
```

```
APPLICANT: Xu, Jiangchun APPLICANT: Secrist, Heather

APPLICANT: Secrist, Heather

TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY

TITLE OF INVENTION: AND DIAGNOSIS OF COLON CANCER

FILE REFERENCE: 210121.547

CURRENT APPLICATION UNMBER: US/09/920,300A

CURRENT FILING DATE: 2001-07-31

NUMBER OF SED ID NOS: 1789

SOSTWARR: FASTSEQ FOR WINDOWS Version 4.0

SEO ID NO 374

LENGTH: 506

TYPE: DNA

ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WESULT 4
US-09-920-300A-374/c
Sequence 374, Application US/09920300A
Patent No. US20020136728A1
 밁
                          δÃ
                                                           망
                                                                                      Q
                                                                                                                    밁
                                                                                                                                                 Ωy
                                                                                                                                                                                 В
                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                      ρy
                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                 ρ
                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q_{\mathbf{Y}}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-920-300A-374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: King, Gordon E.
APPLICANT: Meagher, Madeleine Joy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 36.0%;
Best Local Similarity 100.0%;
Matches 506; Conservative (
                                                                                                                  1070 TTGTATCAAACAGCACAAGCAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAGATGT 112
                                                                                                                                                                                                                                                                           1010 TGTTTATATTGGCATGTTTAGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCCATT 1069
                                                                                                                                                                                     206
                                                                                                                                                                                                                                              266 TGTTTATATTGGCATGTTTAGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        506 CCTGAATTGTACTGTATGTAGCTGCACTACAGATTCTTACCGTCTCCACAAAGGTCA 447
                                                                                                                                                                                                                                                                                                         326 TTGTTGCTTTCCTGATACCAGACTGTTTCCCGTGGTTAGAATATATTTTGTTTTGA
                                                                                                                                                                                                                                                                                                                                      950
                                                                                                                                                                                                                                                                                                                                                                   386 TCATTTTCAGAACTGTTTTAAACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAAACC
                                                                                                                                                                                                                                                                                                                                                                                                 068
                                                                                                                                                                                                                                                                                                                                                                                                                              770 CCTGAATTGTACTGTATGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCA 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541 AAAACAACTGAAGATATGTTTAATAAATATTGTACTTATTGGAAGTAATATCAAA 595
                                                                                                                                                                                 TIGITGCTITCCTGATACCAGACTGTTTCCCGTGGTTGGTTAGAATATATITTTGTTTTGA 1009
                                                                                                                                                                                                                                                                                                                                                                                                TCATTTTCAGAACTGTTTTAAACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCATACTCTGCATATAATTTGTGGCTGCAGAATATTGTAATTTGTTGCACACACTATGTAAC 1268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCATACTCTGCATATAATTTGTGGCTGCAGAATATTGTAATTTGTTGCACACTATGTAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 506; DB 10; pred. No. 2.3e-62;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 506;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ,0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                            387
                                                                                                                        87
                                                                                                                                                   1189
                                                                                                                                                                                   147
                                                                                                                                                                                                                                              207
                                                                                                                                                                                                                                                                                                                                                                     327
                                                                                                                                                                                                                                                                                                                                                                                                 949
                                                                                                                                                                                                                                                                                                         267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
```

0,

```
; GENERAL INFORMATION:
APPLICANT: Penn, Sharron G.
APPLICANT: Rank, David R.
APPLICANT: Hanzel, David K.
APPLICANT: Chen, Wensheng
TITLE OF INVENTION: HUMAN GEN
                                                                                                                                         US-09-864-761-1742/c
                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                    õ
                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                    ρ
                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; TYPE: DNA; ORGANISM: Homo sapiens US-10-033-528-374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 5
US-10-033-528-374/c
                                                                                                     Sequence 1742, Application US/09864761 Patent No. US20020048763A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 506; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: King, Gordon E.
APPLICANT: Meagher, Madeleine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 374, Application US/10033528
Patent No. US20020131971A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Xu, Jiangchun
APPLICANT: Secrist, Heather
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE
TITLE OF INVENTION: AND DIAGNOSIS OF COLON CANCER
FILE REFERENCE: 210121.547C1
CURRENT APPLICATION NUMBER: US/10/033,528
CURRENT FILING DATE: 2001-12-26
NUMBER OF SEQ ID NOS: 1896
SOFTWARE: FASTSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 506
                                                                                                                                                                                                                                           1250
                                                                                                                                                                                                                                                                                                         1190
                                                                                                                                                                                                                                                                                                                                                                           1130
                                                                                                                                                                                                                                                                                                                                                                                                                                          1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           830 GAGATTGTAAATGGTCAATACTGACTTTTTTTTTTTATTCCCTTGACTCAAGACAGCCTAACT 889
                                                                                                                                                                                                                                                                                                                                        146 TATATGTAAGATCTGATTTGCTAGTTCCTTGTAGAGTTATAAATGGAAAGATTACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           890
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            446
                                                                                                                                                                                                            26
                                                                                                                                                                                                                                                                          86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCATTTTCAGAACTGTTTTAAACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAATCC 949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TIGTIGCTITCCTGATACCAGACTGTTTCCCGTGGTTGGTTAGAATATATTTTGTTTTGA 1009
                                                                                                                                                                                                                                                                                           TATCTGATTAATAGTTTCCTTCATACTCTGCATATAATTTGTGGCCTGCAGAATATTGTAAT 1249
                                                                                                                                                                                                                                                                                                                                                           TATATGTAAGATCTGATTTGCTAGTTCTTCCTTGTAGAGTTATAAATGGAAAGATTACAC 1189
                                                                                                                                                                                                                                                                                                                                                                                                          TTGTATCAAACAGCACAAGCAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAGATGT 147
                                                                                                                                                                                                                                                                                                                                                                                                                         TTGTATCAAACAGCACAAGCAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAGATGT 1129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGTTTATATTGGCATGTTTAGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCCATT 1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGTTGCACACTATGTAACAAAACAA 1275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TATCTGATTAATAGTTTCTTCATACTCTGCATATAATTTGTGGCTGCAGAATATTGTAAT
                                                                                                                                                                                                         TTGTTGCACACTATGTAACAAAACAA 1
Hanzel, David K.
Chen, Wensheng
VENTION: HUMAN GENOME-DERIVED SINGLE EXON NUCLEIC ACID PROBES USEFUL FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        36.0%; Score 506; DB 12; ilarity 100.0%; Pred. No. 2.3e-62; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Joy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 506;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            THERAPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                         27
                                                                                                                                                                                                                                                                                                                                        87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
```

```
Q
                                        B
                                                                           γ
                                                                                                                          Вp
                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                              ; OTHER INFORMATION: US-09-864-761-1742
                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 1742
LENGTH: 487
                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION: E OTHER INFORMATION: E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: PCT/US01/00670
PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: US 60/234,687
PRIOR FILING DATE: 2000-09-21
PRIOR APPLICATION NUMBER: US 09/608,408
PRIOR FILING DATE: 2000-06-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS: 49117
SOFTWARE: Annomax Sequence Listing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR
PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: PCT/US01/00662
PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/US01/00661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/US01/00665
PRIOR APPLICATION NUMBER: PCT/US01/00668
PRIOR APPLICATION NUMBER: PCT/US01/00668
PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/US01/00663
PRIOR FILING DATE: 2001-01-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: PCT/US01/00666
PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/US01/00667
PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: PCT/US01/00664
PRIOR APPLICATION NUMBER: PCT/US01/00669
PRIOR APPLICATION NUMBER: PCT/US01/00669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US 60/207,456
PRIOR TILING DATE: 2000-05-26
PRIOR APPLICATION NUMBER: US 09/632,366
PRIOR FILING DATE: 2000-08-03
PRIOR APPLICATION NUMBER: GB 24263.6
DBIOS ETILMS DATE: 2000-10-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/864,761 CURRENT FILING DATE: 2001-05-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR FILING DATE: 2000-09-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR FILING DATE: 2000-02-04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: US 60/180,312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
                                                                                                                          407
                                                                                   562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE: Aeomica-X-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 2000-10-04
APPLICATION NUMBER: US 60/236,359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 2001-01-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OF INVENTION: GENE
                                        ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAG
CAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGT
                                                                                                                                                                                                            467;
                                                                                                                                                                                                          33.2%; Score 467; DB 10; ilarity 100.0%; Pred. No. 5.6e-57; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                     EXPRESSED
EXPRESSED
EXPRESSED
EXPRESSED
EXPRESSED
EXPRESSED
EXPRESSED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2001-01-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MAP TO AC007318.2
EXPRESSED IN HBL1:
EXPRESSED IN HEAR:
                                                                                                                                                                                                                                                                                                                   EXPRESSED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EXPRESSION ANALYSIS BY MICROARRAY
                                                                                                                                                                                                                                                                                                                                                      DD IN HEART, SIGNAL = 2
DD IN BONE MARROW, SIGNAL = 2
ED IN LUNG, SIGNAL = 4
ED IN BRAIN, SIGNAL = 2.6
ED IN BRAIN, SIGNAL = 5.4
ED IN BULT LIVER, SIGNAL = 1
ED IN BT474, SIGNAL = 6.4
ED IN BT474, SIGNAL = 6.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 09/774,203
                                                                                                                                                                                                                                                                                                                 ΝΊ
                                                                                                                                                                                                                                                                                                               PLACENTA, SIGNAL = HELA, SIGNAL = 3.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    нвL100,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Engine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIGNAL - 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    vers.
                                                                                                                                                                                                                                                     Length 487;
                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                               2.3
                                                                                                                                                                                                            0;
                                                                                                                                                                                                            Gaps
                                                                                   621
                                             348
```

0;

```
RESULT 7
US-09-960-352-5427
                                                                                                                                                                                                                                                                                                                                                                                          ; ORGANISM: Bos taurus
; OTHER INFORMATION: Clone ID: 23-LIB34-061-Q1-E1-F3
US-09-960-352-5427
                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 5427, Application US/09960352
Patent No. US20020137139A1
GENERAL INFORMATION:
APPLICANT: Watren, Wesley C.
APPLICANT: Byatt, John C.
APPLICANT: Wathalagan, Nagappan
APPLICANT: Wathalagan, Nagappan
APPLICANT: Wathialagan, Nagappan
APPLICANT: Wathialagan, Nagappan
TITLE OF INVENTION: MUSCLE AND FAT DEPOSITION
FILE REFERENCE: 15511.006/37-21(10298)C
CURRENT APPLICATION NUMBER: US/09/960,352
CURRENT FILING DATE: 2001-09-24
NUMBER OF SEQ ID NOS: 15112
SEQ ID NO 5427
LENGTH: 353
TYPET. NAS
                                                                                                                                                                                                                                                                                                                                    Best Local Similarity Matches 350; Conserv
                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                             1006 TTGATGTTTATATTGGCATGTTTAGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGC 1065
                                                                                                         1126 ATGTTAPATGTAAGATCTGATTTGCTAGTTCTTCCTTGTAGAGTTATAAATGGAAGATT 1185
110 ATGTTATATGTAAGATCTGATTTGCTAGTTCTTCCTTGTAGAGTTATAAACGGAAAGATT 239
107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   862 TTATTCCCTTGACTCAAGACAGCTAACTTCAGTTTTCAGAACTGTTTTAAACCTTTTGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAAACCTTTGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTGAACCCAAGTGAAAAAACAAAATTGCCTGAATTGTACTGTAGCTGCACTACAA 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24.0%; Score 337.2; DB 10; Length 353; Larity 98.9%; Pred. No. 4.8e-39; Conservative 0; Mismatches 3; Indels 1;
                                                                                                                                                                                                                                                                                                                                  1; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            288
                                                                                                                                                                                                                                                                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                            Вb
                                                                                                                                                                                                                                                                                                                                                                                   VΩ
                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΥ
```

Q 밁 δÃ

В

δõ

밁 Q 밁 γQ

망

В

QΥ 밁

밁 δÃ 밁 γ

Š

밁

Ş

밁 δÃ

```
RESULT 9
US-09-294-093B-4584

US-09-294-093B-4584

Sequence 4584, Application US/09294093B

Retent No. US20010051335A1

GENERAL INFORMATION:

APPLICANT: Lajudi, Raghunath, V.

APPLICANT: Lo, Laura, Y.

APPLICANT: Sherman, Bradley, K.

TITLE OF INVENTION: POLYNUCLEOTIDES AND POLYPEPTIDES DERIVED FROM CÓRN TASSEL

FILE REFERENCE: PL-0009 US

CURRENT APPLICATION NUMBER: US/09/294,093B

CURRENT FILING DATE: 1999-04-16

PRIOR APPLICATION NUMBER: 60/082,567

PRIOR APPLICATION NUMBER: 60/082,567

PRIOR FILING DATE: APRIL 21, 1998

NUMBER OF ERD ID NOS: 6207

SEQ ID NO 4584

LENGTH: 290

PERL PROGram
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Warren, Wesley C.
APPLICANT: Tao, Nenghing
APPLICANT: Tao, Nenghing
APPLICANT: Myatt, John C.
APPLICANT: Mathialagan, Negappan
APPLICANT: Mathialagan, Negappan
TITLE OF INVENTION: NUCLEIC ACID AND OTHER MOLECULES A:
TITLE OF INVENTION: MUSCLE AND FAT DEPOSITION
FILE REFERENCE: 16511.006;/37-21(10298)C
CURRENT APPLICATION NUMBER: US/09/960,352
CURRENT FILING DATE: 2001-09-24
NUMBER OF ESQ ID NOS: 15112
SEQ ID NO 8911
LENGTH: 427
TYPE: DNA
ORGANISM: Bos taurus
ORGANISM: Bos taurus
ORGANISM: Bos taurus
ORGANISM: Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 8.
US-09-960-352-8911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 8911, Application US/09960352 Patent No. US20020137139A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 22.4%;
Best Local Similarity 94.7%;
Matches 337; Conservative
TYPE: DNA
ORGANISM: Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           316 TGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATCAACCATCAAATA 371
301 TGGATTTCAAAATAAGAACTATAGAGTTAGATGGGAAAACAATCAACCTTCAGATA 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTACATCAGCACAATTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGACTCAGGGGTTGGAAAGTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCGGCAGCAAGGCCGCGGTGGCGGCGGCGGCGCACTTCAGATTGCAATTGCAGCATGAAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCCTTCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTACATCAGCACAATTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 314.8; DB 10; Length 427; Pred. No. 6e-36; 0; Mismatches 17; Indels 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AND OTHER MOLECULES ASSOCIATED WITH LACTATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1;
```

```
Ş
                                                                 В
                                                                                            ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
 밁
                                                                                                                                                                                                   US-09-604-287A-337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 10
US-09-604-287A-337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OTHER INFORMATION: a, t, c, US-09-294-093B-4584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 283; Conserva
                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 337, Application US/09604287A Patent No. US20020064872A1
                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 337
                                                                                                                                                                                                                                                                                                                                             APPLICANT: Xu, Jiangchun
APPLICANT: Harlocker, Susan L.
APPLICANT: Hepler, William T.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE
TITLE OF INVENTION: DIAGNOSIS OF BREAST CANCER
FILE REFERENCE: 210121.470C7
CURRENT APPLICATION NUMBER: US/09/604,287A
CURRENT FILING DATE: 2000-06-22
NUMBER OF SEQ ID NOS: 489
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Jiang, APPLICANT: Dillo APPLICANT: Mitch:
                                                                                                                                                                                                             NAME/KEY: misc_feature
LOCATION: (1)...(241)
OTHER INFORMATION: n =
                                                                                                                                                                                                                                                                TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: Incyte ID No. US20010051335A1 700354602H1
NAME/KEY: unsure
LOCATION: 2, 88, 216, 219, 247, 283
                                                                                                                                                                                                                                                                                                               LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
NAME/KEY: misc_feature
                                  838
                                                                                778 GTACTGTATGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGT 837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540 ACCAGTGCTAAGAATGCAACGAATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATT 599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
   62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                   Local
                                                                 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 ANCAGTGCTAAGAATGCAACGAATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAATGGTCAATACTGACTTTTTTTTATTCCCTTGACTCAAGACAGCTAACTTCATTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTCTCACAGCAATGAATTTGCAATCTGAACCCAAGTGAAAAAACAAAATTGCCTGAATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGTTGCTGCTAAAATTTTGCCTTCCATCCTT
                                                               GTACTGTATGTAGCTGCACTACAACAGATTCTTACCGTCTCCACANAGGTCATANATTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TACTGTATGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCA 829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTCTCACAGCAATGAATTTGCAATCTGAACCCAAGNGANAAAACAAAATTGCCTGAATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAAAAGCGAATGGGTCCCGGAGCAACANCTGGTGGTGGCTGAGAAGTCCAATGTTAAAAT 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAAAAGCGAATGGGTCCCGGAGCAACAGCTGGTGGT-GCTGAGAAGTCCAATGTTAAAAT 658
AAATGGTNAATACTGACTTTTTTTTTTTTTCCCCTTGACTCAAGACAGCTAACTTCATTTTC
                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Dillon, Davin C.
Mitcham, Jennifer L.
                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Yuqiu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18.6%;
                                                                                                                                                 16.6%;
97.5%;
                                                                                                                                                                                                                A,T,C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g, or other
                                                                                                                                                                                                                о
Р
                                                                                                                                  0;
                                                                                                                             Score 232.8; DB 1
Pred. No. 1.3e-24;
0; Mismatches 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 261; DB 10;
Pred. No. 1.6e-28;
                                                                                                                                                                                                                  G
                                                                                                                                                               DB 10;
                                                                                                                                6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 290;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                Indels
                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               290
                                                                                                                                                               241;
                                                                                                                              0;
                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                897
                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2
```

```
RESULT 11
US-10-007-805-337
Sequence 337, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Fanger, Gary R.
APPLICANT: Wedvick, Thomas S.
APPLICANT: McNeill, Patricia D.
APPLICANT: Durham, Margarita
FITTLE OF INVENTION: COMPOSITIONS AND METHODS FOI
FITLE OF INVENTION: AND DIAGNOSIS OF BREAST CAN
FILE REFERENCE: 210121 470C10
CURRENT APPLICATION NUMBER: US/10/007,805
CURRENT FILING DATE: 2001-12-07
NUMBER OF SEQ ID NOS: 593
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 337
LENGTH: 241
                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                            US-09-820-003A-36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; OTHER INFORMATION: n = US-10-007-805-337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Jiang, Yuqiu
APPLICANT: Dillon, Davir
APPLICANT: Mitcham, Jen
APPLICANT: Xu, Jiangchur
APPLICANT: Harlocker, St
APPLICANT: Hepler, Willi
APPLICANT: Henderson, Re
APPLICANT: Fanger, Gary
                                                            Sequence 36, Application US/09820003A Patent No. US20020142382A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Patent No. US20020150581A1
APPLICANT: MERKULOV, Gennady et al.
TITLE OF INVENTION: ISOLATED HUMAN RAS-LIKE PROTEINS,
TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING
TITLE OF INVENTION: PROTEINS, AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
NAME/KEY: misc_feature
LOCATION: 47, 56, 69,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
                                                                                                                                                                                          958 TTCCTGATACCAGACTGTTTCCCGTGGTTGGTTAGAATATATTTTGTTTTGATGTTTATA 1017
                                                                                                                                                                                                                                        122
                                                                                                                                                                                                                                                                     868
                                                                                                                                                                                                                                                                                                                                 838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          122
                                                                                                                                                                          182
                                                                                                                                                                                                                                                                                                                                                                                             778 GTACTGTATGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGT
                                                                                                                                                                                                                                                                                                      62
                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity les 234; Conserv
                                                                                                                                                                                                                                                                                                                                                                N
                                                                                                                                                                                                                                                                                                                                                               TTCCTGATACCAGACTGTTTCCCGTGGTTGGTTAGAATATATTTTGNTTTGATGCTTATA
                                                                                                                                                                                                                                                       AAATGGTNAATACTGACTTTTTTTTTTTTTCCCTTGACTCAAGACAGCTAACTTCATTTTC
                                                                                                                                                                                                                                                                                                                   AAATGGTCAATACTGACTTTTTTTTTTATTCCCTTGACTCAAGACAGCTAACTTCATTTTC
                                                                                                                                                                                                                                      AGAACTGTTTTAAACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hepler, William T.
Henderson, Robert A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Xu, Jiangchun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mitcham, Jennifer L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Dillon, Davin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Application US/10007805
                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                         16.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Susan L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A,T,C or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C
                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                           Score 232.8; DB 1
Pred. No. 1.3e-24;
0; Mismatches 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FOR TH
                                                                                                                                                                                                                                                                                                                                                                                                                              6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            THE
                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                   THESE HUMAN RAS-LIKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                           241;
                                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                     957
                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                   897
                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        957
                                                                                                                                                                                                                                                                                                                                                                                                                              0;
```

```
RESULT 13
US-09-778-320-84
Sequence 84, Application US/09778320
Patent No. US20010034052A1
GENERAL INFORMATION:
                                                 ρ
                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
Ş
                          밁
                                                                                 밁
                                                                                                                                                                                             FEATURE:
NAME/KEY: misc_feature
LOCATION: (1)...(229)
OTHER INFORMATION: n = A,T,C or G
US-09-778-320-84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-820-003A-36
                                                                                                                                Query Match
Best Local Similarity
Matches 221; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/820,003A
CURRENT FILING DATE: 2001-03-29
NUMBER OF SEQ ID NOS: 39
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 36
SEQ ID NO 36
LENGTH: 601
TYPE: DNA
ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                SOFTWARE: FASTSEQ for V
SEQ ID NO 84
LENGTH: 229
TYPE: DNA
ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Sin
Matches 224;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                    APPLICANT: Wang, TongTong
APPLICANT: MCNeill, Patricia D.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF BREAST CANCER
FILE REFERENCE: 210121.491C5
CURRENT APPLICATION NUMBER: US/09/778,320
CURRENT FILING DATE: 2001-02-06
UNMBER 0F SEQ ID NOS: 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                     840
                                                                              780 ACTGTATGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAA 839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        682 CAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTTCCAC 725
558 CAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTTCCAC 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900 AACTGTTTTAAACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTT 959
                            61
                          ATGGTCAATACTGACTTTTTTTTTTTTTCCCCTTGACTCAAGACAGCTAACTTCATTTTCAG
                                                     ATGGTCAATACTGACTTTTTTTTTTTTTCCCTTGACTCAAGACAGCTAACTTCATTTTCAG 899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  h 15.9%; Score 224; DB 10; Length 601; Similarity 100.0%; Pred. No. 2.1e-23; 24; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                          FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Houghton, Raymond L.
Mitcham, Jennifer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Day, Craig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Dillon, Davin C.
                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Yuqiu
                                                                                                                                                    15.6%;
96.5%;
                                                                                                                                      Score 219.8; I
Pred. No. 7.9e-
0; Mismatches
                                                                                                                                          0;
                                                                                                                                        0;
                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               621
                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
```

```
Sequence 84, Application US/10
patent No. US20020146727A1
GENERAL INFORMATION:
APPLICANT: Dillon, Davin C.
APPLICANT: Day, Craig H.
APPLICANT: Jiang, Yuqiu
APPLICANT: Houghton, Raymond
APPLICANT: Mang, Tongtong
APPLICANT: Wang, Tongtong
APPLICANT: Maricham, Jennifer
APPLICANT: Maricham, Jennifer
APPLICANT: Wang, Tongtong
APPLICANT: MCNeill, Patricla
APPLICANT: Hariocker, Susan
APPLICANT: Bennington, Angel
                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                        RESULT 15
US-10-010-742-84
                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; FEATURE: misc_feature; NAME/KEY: misc_feature; LOCATION: 163, 191, 203, 222, 223, OTHER INFORMATION: n = A,T,C or G US-09-910-689-84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 84
Patent No.
GENERAL INE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/09/910,689
CURRENT FILING DATE: 2001-07-20
NUMBER OF SEQ ID NOS: 307
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -09-910-689-84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Harlocker, Susan L.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
TITLE OF INVENTION: DIAGNOSIS OF BREAST CANCER
FILE REFERENCE: 210121.491C6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Dillon, Davin C. APPLICANT: Day, Craig H. APPLICANT: Jiang, Yuqiu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 229
TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            960 CCTGATACCAGACTGTTTCCCGTGGTTGGTTAGAATATATTTTGTTTTG 1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                      181 CCTGATACCANACTGTTTCCCGNGGTTGGTTAGAATATTNNGTTCNG
                                                                                                                                                                                                                                                                                                                                                        960 CCTGATACCAGACTGTTTCCCGTGGTTGGTTAGAATATATTTTGTTTTG 1008
                                                                                                                                                                                                                                                                                                                                                                                                121 AACTGTTTTAAACCTTTGTGTGCTGGTTTATAAAATAATGTGNGTAATCCTTGTTGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                    840 ATGGTCAATACTGACTTTTTTTTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAG 899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              780 ACTGTATGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAA 839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 ACTGTTTGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGGTCAATACTGACTTTTTTTTTTTCCCTTGACTCAAGACAGCTAACTTCATTTTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AACTGTTTTAAACCTTTGTGTGCTGGTTTATAAAATAATGTGNGTAATCCTTGTTGCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTGATACCANACTGTTTCCCGNGGTTGGTTAGAATATTNNGTTCNG 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84, Application US/09910689
o. US20020081609A1
    Wang, Tongtong
McNeill, Patricia D.
Harlocker, Susan L.
Bennington, Angela A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Jiang, Yuqiu
Houghton, Raymond L.
Mitcham, Jennifer
                                                                              Houghton, Raymond L. Mitcham, Jennifer L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wang, Tongtong
McNeill, Patricia D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15.6%;
96.5%;
                                                                                                                                                                                                                        US/10010742
      Angela Anr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 219.8; DB 1
Pred. No. 7.9e-23;
0; Mismatches E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
```

```
; APPLICANT: Zehentner, Barbara
; APPLICANT: Fanger, Gary R.
; APPLICANT: Retter, Marc W.
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR THE THERAPY AND
; TITLE OF INVENTION: DIAGNOSIS OF BREAST CANCER
; FILE REFERENCE: 210121.491C7
; CURRENT APPLICATION NUMBER: US/10/010,742
; CURRENT FILING DATE: 2001-11-30
; NUMBER OF SEQ ID NOS: 307
; SOFTWARE: FrastSEQ for Windows Version 4.0
; SEQ ID NO 84
; SEQ ID NO 84
; CENCTH: 229
; TYPE: DNA
; ORGANISM: Homo sapiens
; PAATURE:
; NAME/KEY: misc_feature
; LOCATION: 163, 191, 203, 222, 223, 228
; OTHER INFORMATION: n = A,T,C or G
US-10-010-742-84
                                                                                                                                                                                                                                                                     Qy
Search completed: November 17, 2002, 13:04:08 Job time : 132 secs
                                                                               밁
                                                                                                                Š
                                                                                                                                                       рь
                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                         Query Match 15.6%; Score 219.8; DB 12; Length 229; Best Local Similarity 96.5%; Pred. No. 7.9e-23; Matches 221; Conservative 0; Mismatches 8; Indels 0;
                                                                         121
                                                                                                                                                                                             900
                                                                                                                                                                                                                              780 ACTGTATGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAA 839
                                                                                                                                                                                                                                                                                                            1 ACTGTTTGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAA 60
                                                                                                                                                     AACTGTTTTAAACCTTTGTGTGCTGCTTATAAAATAATGATGTGTGTAATCCTTGTTGCTTT 959
                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                           0;
```

```
Title:
Perfect score:
Sequence:
                                                                                                                            Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                      Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OM nucleic - nucleic search, using sw model
                                                                                               Database :
                                                                                                                                                                                           Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Run on:
EST:*

1: em_estba:*
2: em_esthum:*
3: em_estln:*
4: em_estnu:*
5: em_estov:*
6: em_estpl:*
                                                                                                                                                                                                                                                                                                                                                     16154066 seqs, 8097743376 residues
                                                                                                                                                                                                                                                                                                     IDENTITY_NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                  November 17, 2002, 11:36:02; Search time 1933 Seconds (without alignments) 11771.681 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd.
                                                                                                                                                                                                                                            32308132
```

AL539022 AL5390 BQ014597 UI-H- AA746643 nx27c0 B1869965 60339 BQ276678 AGENC	AL539022 BQ014597 AA746643 BI869965 BQ276678	9 14 13	948 777 811 817 910	52.9 52.1 51.8 51.5	743 732.4 727.6 723.8 708.8
Description	SUMMARIES	DB B	Query Ouery Match Length DB ID	% Query Match	Score
re greater than or equal to the score of the result being printed is derived by analysis of the total score distribution.	l to the sco of the tota	equa.	nan or o	ater t)	ore gre

Result

Score

743 732.4 727.6 723.8 708.8 708.8

AL539022 AL539022 BQ014597 UI-H-ED1-AA746643 nx27c08.s B1869965 60339416 BQ276678 AGENCOURT BQ772048 UI-H-EZ1-

C	C		C		a	O	O		O		O	C	O	C	O	O		O	O				Q	Q			O	a						O		C			
45	44	43	42	41	40	39	38	37	36	35	34	ω W	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	œ	7	
28.	630.6	31.	31.	32.	Ψ	638	638	638	638.8	640.4	645.6	648	650	50	655.2	57	658	659.6	661.2	668.2	669.6	670.8	671.2	676.4	677.6	682.6	683.2	685.6	686	688.2	689	690.6	91	92	702	703.6	704.4	707.8	
4	44.9	44.9	45.0	45.0	45.4	45.4	45.4	45.4	45.5	45.6	46.0	46.1	46.3	46.3	46.6	46.8	46.8	9	7	7	7	7	7	æ	æ	48.6	œ	œ	æ	9	9	9	9	9	0	0	0	0	
702	645	862	664	1055	719	687	646	638	682	900	682	723	908	692	682	690	793	721	686	812	813	1130	684	678	877	796	706	717	686	737	689	837	976	760	796	725	1105	945	
9	10	14	10	13	14	10	14	14	9	12																13				13	14	13	14	14	13	14	13	9	
A1889183	AW166902	BQ223273	BE617921	BM472577	BQ210709	BE646347	BQ599347	вм783973	AI860577	BG032817	AI858694	AI800097	AA659410	AI828874	BQ010358	AW150848	BG178268	AI884351	вQ599300	вQ178972	вQ179586	BM542833	BI495589	BG939358	BG617277	BI659520	вм975245	A1952757	вм826571	BI092003	BM706159	BI086445	BM919860	вм971301	в1913092	BQ448090	45	N	
	AW166902 xg68b08.x			AGE			BQ599347 MI-P-E4-a	BM783973 K-EST0062	AI860577 wll4g05.x	BG032817 602298485	AI858694 wl41c04.x	AI800097 tr20e11.x	AA659410 nul3h08.s	AI828874 wj37a03.x		AW150848 xg41b03.x	BG178268 602330311	AI884351 wm31b08.x				BM542833 AGENCOURT	BI495589 df119c09.	BG939358 cr53d09.x	BG617277 602615301	BI659520 603303261	BM975245	AI952757 wr50b07.x	BM826571 K-EST0098	BI092003 602856302	BM706159 UI-E-DW0-			1 UI-CF-EC			452262 AGENCO	AL530265 AL530265	

ALIGNMENTS

	source	FEATURES		COMMENT	JOURNAL	TITLE	AUTHORS	REFERENCE			ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION		DEFINITION	LOCUS	AL539022	RESULT 1
/organism="Homo sapiens" /db_xref="taxon:9606" /clone="CSODF030YG06" /clone_lib="IJTI_FL013_FBrn1" /dev_stage="pooled tissue from post conception fetuses (20 week, 24 week and 26 week)" /lab_host="DH10B"	1948	<pre>Email: segretegenoscope.cns.fr, Web : www.genoscope.cns.fr. Location/Qualifiers</pre>	BP 191 91006 EVRY cedex - France	Contact: Genoscope	Unpublished (2001)	Full-length cDNA libraries and normalization	Li,W.B., Gruber,C., Jessee,J. and Polayes,D.	1 (bases 1 to 948)	Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;	Homo sapiens	human.	EST.	AL539022.1 GI:12867866	ĀL539022	prime, mRNA sequence.	LTI_FL013_FBrn1 Homo sapiens cDNA clone CS0	AL539022 948 bp mRNA linear EST 16-FEB-2001		

```
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                            640
                                     700
                                                                                                                                               662
                                                                                                                                                                                                                                                        520
                                                                                                                                                                                                                                                                                         542
                                                                                                                                                                                                                                                                                                                                                                482
                                                                                                                                                                                                                                                                                                                                                                                                  400
 782
                                                                        722
                                                                                                                                                                                   580
                                                                                                                                                                                                                    602
                                                                                                                                                                                                                                                                                                                           460
                                                                                                                                                                                                                                                                                                                                                                                                                                    422 GCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAATAATGTTAAACAGTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAATCTGAACCCAAGTGAAAA 759
                                                                                       AGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGTTGCTGCT 699
                                                                                                                                                            TGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGCAACAGCTGGTGGTGCTG
                                                                                                                                                                                                                                                                                        GTGATCTGACCACAAAGAAAGTAGTAGACTACACAACAGCGAAGGAATTTGCTGATTCCC
                                                                                                                                                                                                                                                                                                                                                              TGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAACAAATTGTTGGTAGGGAACAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTACATCAGCACAATTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCGGCGGCTGCTGATTGTGTTCTAGGGGACGGAGTAGGGGAAGACGTTTGCTCTCCCGGA 75
 AAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAATCTGAACCCAAGTGTAAA
                                                                      AGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGTTGCTGCT
                                                                                                                                                                                                                  TTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGAATGTAGAACAGTCTTTCA
                                                                                                                                                                                                                                   TTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGAATGTAGAACAGTCTTTCA 579
                                                                                                                                                                                                                                                                                                        GTGATCTGACCACAAAGAAAGTAGTAGACTACACAACAGCGAAGGAATTTGCTGATTCCC
                                                                                                                                                                                                                                                                                                                                                                                                  TGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAACAAATTGTTGGTAGGGAACAAAT 459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATCAAGCTTCAAATA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTACATCAGCACAATTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACAGCCTATCTCATTCCTTTCTTTCGATTACCCGTGGCGCGGAGAGTCAGGGCGGCGGCT 135
                                                                                                                                            TGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGCAACAGCTGGTGGTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACACAGCAGGCCAGGAAAGATTTCGAACAATCACCTCCAGTTATTACAGAGGAGCCCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATCAAGCTTCAAATATGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    al Similarity
849; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note-*Organ: Fetal brain; Vector: pCMVSPORT 6; 1st stran CDNA was primed with a NotI-oligo(dT) primer. Five prime end enriched, double-stranded cDNA was digested with Not and cloned into the Not I and Eco RV sites of the pCMVSPORT 6 vector. Library was constructed by Life Technologies. Contact: Feng Liang Life Technologies, a division of Invitrogen 9800 Medical Center Drive Rockvill, Maryland 20850, USA Fax: (1) 301 610 8371 Email:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                fliangelifetech.com URL:
http://fulllength.invitrogen.com"
187 c 239 g 244 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  52.98;
89.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 743; DB 9;
Pred. No. 1.4e-78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----GAGTCCTTCAATAATGTTAAACAGTGGC 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 948;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Drive Rockville
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1st strand
                                                                                                                                                                                                                                                                                                                           519
841
                                                                                                                                                                               639
                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                     781
                                                                                                                                            721
                                                                                                                                                                                                                                                                                        601
                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1;
```

밁 δõ Б δÃ 멍 γQ 밁 δ Вp δÃ В δõ Дb Qy В δ 밁 Qy 밁 ρy 망 Š В γ В δÃ В QY

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
KEYWORDS
밁
                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BQ014597/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
                                                                                   Query Match
Best Local Similarity
Matches 769; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                    553 ATGCAACGAATGTAGAACAGTCTTTTCATGACGATGGCAGCTGAGATTAAAAAAGCGAATGG 612
  777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         760
ATGCAACGAATGTAGAACAGTCTNTCATGACGATGCAGCTNGAGATTAAAAAAGCGAAT-G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AACAAAATTGCCTGAATTGTACTGTATGTAGCTGCACTACAACAGATTCTTACCGTCTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDNA Library preparation: Dr. M. Bento Soares, University of Iowa CDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa DNA Sequencing by: Dr. M. Bento Soares, University of Iowa Clone Distribution: Clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Seq primer: M13 FORWARD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Jose Mercuende
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 (bases 1 to 777)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IMAGE:5833270
BQ014597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BQ014597 777 bp mRNA linear UI-H-ED1-axt-b-23-0-UI.sl NCI_CGAP_ED1 Homo sapiens IMAGE:5833270 3', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BQ014597.1
                                                                                                                                                                                                   259
                                                                                                                                                                                                                                                                                /lab_host="philds (Life Technologies)"
/lab_host="bridge (Life Technologies)"
/note="Organ: Left Pubic Bone; Vector: pT773-Pac
/note="Organ: Left Pubic Bone; Vector: pT773-Pac
/pharmacia) with a modified polylinker; Site_1: EcoR I;
Site_2: Not I; NCI_CGAP_EDI is a normalized cDNA library
containing the following tissue(s): Chondrosarcoma cell
line CS5. The library was constructed according to Bonaldo
, Lennon and Soares, Genome Research, 6:791-806, 1996.
First strand cDNA synthesis was primed with an oligo-dT
primer containing a Not I site. Double stranded cDNA was
ligated to an EcoR I adaptor, digested with Not I, and
cloned directionally into pT773-Pac vector. The
oligonuclectide used to prime the synthesis of
first-strand cDNA contains a library tag sequence that is
located between the Not I site and the (dT)18 tail. The
sequence tag for this library is GCTCAAGGCT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gene Index
                                                                                                                                                                                                 TAG_SEQ=CGTCAAGGCT"
146 c 128 g
                                                                                                                                                                                                                                                                     sequence tag for
TAG_LIB=UI-H-ED1
                                                                                                                                                                                                                                             TAG_TISSUE=chondrosarcoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /tissue_type="Chondrosarcoma"
/dev_stage="Adult"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /clone_lib="NCI_CGAP_ED1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone="IMAGE:5833270"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GI:19739498
                                                                                                           52.1%; 98.6%;
                                                                                 Score 732.4; DB 14;
Pred. No. 2.8e-77;
D; Mismatches 8;
                                                                                                                                                                                               9
                                                                                                                                                                                                   242
                                                                                                                                                                                                   4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Anatomy Project (CGAP),
                                                                                                                                                                                                   N
                                                                                                                                Length 777;
                                                                                                                                                                                                   others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDNA clone
                                                                                   ω
                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                      ω
```

B Š

613

Sequencing Center information can b

```
GTCTGTCACTTTCCATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCTGATTTGCTA 1152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACTCTGCATATAATTTGTGGCTGCAGAATATTGTAATTTGCTGCACACTATGTAACAAAA 1272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTTCTTCCTTGTAGAGTTATAAATGGAAAGATTACACTATCTGATTAATAGTTTCTTCAT 1212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGTTTCCCGTGGTTGGTTAGAATATATTTTGTTTTGATGTTTATATTTGGCATGTTTAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGTTTCCCGTGGTTGGTTAGAATATATTTTGTTTTGATGTTTAATATTTGGCATGTTTAGAT 1032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTCCCGGAGCAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTCTGCATATAATTTGTGGCTGCAGAATATTGTAATTTGTTGCACACTATGTAACAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTTCTTCCTTGTAGAGTTATAAATGGAAAGATTACACTATCTGATTAATAGTTTCTTCAT 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTCTGTCACTTTCCATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCTGATTTGCTA 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCAAGCAGTCAGGTGGAGG-TGCTGCTAAAA-TTGCCTCCATCCTTTTCTCACAGCAATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCAAGCAGTCAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATG
                                                                                                                                       Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 811) (bases 1 to 811) (CI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap. National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                           sequence.
AA746643
                                                                                                                                                                                                                                                                                                                                                           AA746643 811 bp mRNA linear EST 22-JAN-1998 nx27c08.sl NCI_CGAP_GC4 Homo sapiens cDNA clone IMAGE:1257326 3' similar to gb:m28209 RAS-RELATED PROTEIN RAB-1A (HUMAN); mRNA
                                 Tumor Gene Index
Unpublished (1997)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-rémail.nih.gov
Tissue Procurement: Christopher A. Moskaluk, M.D.,
Emmert-Buck, M.D., Ph.D.
                                                                                                                                                                                                                                                                                                         AA746643.1 GI:2786629
Library Preparation: M. Bento Soares, Ph.D Library Arrayed by: Greg Lennon, Ph.D.
                                                          Ph.D.,
                                                          Michael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
  밁
                           Qy
                                                                        В
                                                                                                     Ωy
                                                                                                                                                  Дb
                                                                                                                                                                             VΩ
                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                          Qγ
                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                  γQ
                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                     д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 780; Conserv
                                    1102
                                                                                                              1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                         454
                                                                                                                                                                                                                                                                                                                                                                                                                       802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           502
                                                                          274
                                                                                                                                                    334
                                                                                                                                                                                        982
                                                                                                                                                                                                                            862
                                                                                                                                                                                                                                                                                                                                                                                 514 CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                              574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      634 CAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       809
TGGTTGGTTAGAATATATTTTGTTTTTGATGTTTTATATTGGCATGTTTAGATGTCAGGTTT 1041
                                                                                                                                                                                                                                                                                                         TTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTGTGTG
                                                                                                                                                                                                                                                                                                                             TTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTTGTGTG
                                                                                                                                                                                                                                                                                                                                                                                                        CAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTTTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGGTGGAGGTTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGGAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGA 561
                                                                          TGGTTGGTTAGAATATTTTTGTTTTTGATGTTTATATTGGCATGTTTAGATGTCAGGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAACAGCGGGTGGTGCTGAGAAGTCCAATGTTAAAATTCGGGCCACTCCAGTCAAGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGTAGACCGTCCTTCA--GACGAGGCAAGCGGAGATTAAAAGCCGAATGGGTCCC-GAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGGAATTTCCGGATCCCTGGAAATCCCTTTTT--GAAACCGGTGCTAGGAATGCACCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA Sequencing by: Washington University Genome Clone distribution: NCI-CGAP clone distribution found through the I.M.A.G.E. Consortium/ILNL at: www-bio.llnl.gov/bbrp/image/image.html Insert Length: 861 Std Error: 0.00 Seq primer: -40ml3 fwd. ET from Amersham High quality sequence stop: 471.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /clone_TIMAGE:1257326"
/clone_lib="NCI_CGAP_GC4"
/tlssue_type="pooled germ cell tumors"
/lab_host="DH10B" pooled germ cell tumors"
/lab_host="DH10B" prooled germ cell tumors with a modified
/note="Vector: pT773D-Pac (Pharmacia) with a modified
/note="Vector: pT773D-Pac (Pharmacia) with a Not I -
polylinker; lst strand cDNA was prepared from 3 pooled
germ cell tumors, and was then primed with a Not I -
oligo(dT) primer. Double-stranded cDNA was ligated to Eco
oligo(dT) primer. Double-stranded with Not I and cloned
into the Not I and Eco RI sites of the modified pT773
vector. Library is normalized, Library was constructed by
Bento Soares and M. Fatima Bonaldo. "
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               51.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 727.6; DB 9; Pred. No. 9.8e-77;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
```

29;

ω

Length Indels

811; 5 Gaps

Ьy

g Qy

300

1033

1093

240

B 8 밁 Qy 뮹 Qy B 8 В ρy 밁 Š

> 853 480

540 793 600 733 658 673

360 973 420 913

REFERENCE AUTHORS TITLE

155

981

335

921

395

861

455

515

681

695

635

752

ACCESSION VERSION KEYWORDS SOURCE

ORGANISM

RESULT 3 AA746643/c LOCUS

DEFINITION

밁 γ 밁 Q В Qy B Qγ

60

1273

1213

120

1153

180

```
RESULT 4
BI869965
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
VERSION
               밁
                                    δÕ
                                                            뮵
                                                                                        Q
                                                                                                                         В
                                                                                                                                              Q
                                                                                                                                                                                                                                       BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1162
                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                           595
                                                                                                535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    154
               121
                                                                                                                                                       475
                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               94
                                                                                                                       1 AGAAAGTAGTAGACTACACAACAGCGAAGGAATTTGCTGATTCCCTTGGAATTCCGTTTT
                                                                TGGAAACCAGTGCTAAGAATGCAACGAATGTAGAACAGTCTTTCATGACGATGGCAGCTG 594
                                                                                                                                       AGAAAGTAGTAGACTACACAACAGCGAAGGAATTTGCTGATTCCCTTTGGAATTCCGTTTT 534
                            AGATTAAAAAGCGAATGGGTCCCGGAGCAACAGCTGGTGGTGCTGAGAAGTCCAATGTTA 654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATATGTTTAATAAATATTGTACTTATTGGAAGTA 1315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGATTAAAAAGCGAATGGGTCCCGGAGCAACAGCTGGTGGTGCTGAGAAGTCCAATGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATAATTTGTGGCTGCAGAATATTGTAATTTGTTGCACACTATGTAACAAAACAACTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATATGTTTAATAAATATTGTACTTATTGGAAGTA 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATAATTTGTGGCTGCAGAATATTGTAATTTGTTGCACACTATGTAACAAAACAACTGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                               DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
plate: LLAMI2030 row: p column: 04
High quality sequence stop: 669.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 (bases 1 to 817)
NIH-MCC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      603394116F1 NIH_MGC_90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B1869965.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BI869965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Contact: Robert Strausberg, Ph.D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium
                                                                                                                                                                                                                                                     237
                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                              /tissue_type="adenocarcinoma, cell line"
/lab_host="DH10B (phage-resistant)"
/note="organ: liver; Vector: pCMV-SPORT6; Site_1: Not1;
Site_2: Sal1; Cloned unidirectionally; oligo-dT primed.
Average insert size 1.7 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NHH_MGC Library."
a 155 c 169 g 256 t
                                                                                                                                                                                                                                                                                                                                                              /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:5404275"
/clone_lib="NIH_MGC_90"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GI:16043638
                                                                                                                                                                                             51.5%;
95.3%;
                                                                                                                                                                                0;
                                                                                                                                                                             Score 723.8; DB 13; Pred. No. 2.7e-76; 0; Mismatches 32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    817
Homo s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 dq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mRNA
                                                                                                                                                                                                           DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mRNA linear EST 11-00 CDNA clone IMAGE:5404275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gene
                                                                                                                                                                                Indels
                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Collection (MGC)
                                                                                                                                                                                                           817;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (LLNL)
                                                                                                                                                                                6;
                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1281
              180
                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      be
                                                                                                                                                                                ω
                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
FEATURES
```

,-;

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 5
BQ276678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                            SOURCE
                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                        Locus
                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTTGTTGCACACTATGTAACAAAACAACTGAAGATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTGATTACAAGTGTCCTTCATACTCTGCATATACATCGGGGCTGCAGAACTTCTGGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCAAACAGCACAAGCAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAGATGTTATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TATGTTGCCCACTATGTAACAAAACACTGCAAGATAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTGATTAATAGT-TTCTTCATACTCTGCATATAATTTGTGGCTGCAGAA--TATTGTAA 1248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATATCGGCATGTCTAGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCCATTTGGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATATTGGCATGTTTAGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCCATTTTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTTTCCTGATACCAGACTGTTTCCCGTGGTTGGTTAGAATATATTTGGTTTTGATGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GCTTTCCTGATACCAGACTGTTTCCCGTGGTTGGTTAGAATATATTTTGTTTTGATGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGTAAATGGTCAATACTGACTTTTTTTTTTATTCCCTTGACTCAAGACAGCTAACTTCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTAAATGGTCAATACTGACTTTTTTTTTATTCCCTTGACTCAAGACAGCTAACTTCATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAATTCAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGTTGCTGCTAAAATTTGCCTCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAATTCAGAGCACTCCAGTCAAGCAGTCAGGTTGGAGGTTGCTGCTAAAATTTGCCTCCAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCAAACAGCACAAGCAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAGATGTTATAT
CDNA Library Preparation: Michael Brownstein Laboratory CDNA Library Preparation: Michael Brownstein (LLNL) CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Agencourt Bioscience Corporation Clone distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov plate: LLCM2055 row: i column: 22 High quality sequence stop: 558.
                                                                                                                                             Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
Tissue Procurement: NCI
                                                                                                                                                                                                       Mammalia; Eutheria; Primates; Catarrhini;
1 (bases 1 to 910)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
                                                                                                                                                                                                                                                                                                                         BQ276678.1
EST.
                                                                                                                                                                                                                                                                                                                                                                                    BQ276678 910 1
AGENCOURT_7025320 NIH_MGC_126
                                                                                                                                                                                               Unpublished (1999)
                                                                                                                                                                                                                                                                            Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                        BQ276678
                                                                                                                                                                                                                                                                                                                                                                       5', mRNA sequence
                                                                                                                                                                                                                                                                                                                                         GI:20486886
                                                                                                                                                                                                                                                          Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                      bp
6 Homo
                                                                                                                                                                                                                                                          Craniata; Ve
Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                        sapiens
                                                                                                                                                                                                                                                                                                                                                                                                      mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      817
                                                                                                                                                                                                                                                                            Vertebrata;
                                                                                                                                                                                                              Gene
                                                                                                                                                                                                                                                            Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                      linear EST 07-MAY-2002 cDNA clone IMAGE:5809629
                                                                                                                                                                                                              Collection (MGC)
                                                                                                                                                                                                                                                                            Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            774
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                    þe
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 724;
                                                    1184
                                                                                                                                                                                                                                                                                                                                                                                                           1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1004
                                                                                                                                                                                                                                                                                                                       483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           584 GATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGCAACAGCTGGTGGTGCTGAGAA 643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTACACTATCTGATTAATAGTTTCTTCATACTCTGCATATAAATTTGTGGGCTGCAGAATAT
                                                                                                                              AGATGTTATATGTAAGATCTGAATTTCCTAGTTCTTCCTTGCTAGAGTTATAAATGGAAAGA 1183 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 1181 | 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGTTGCTGCTAAAA 703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAATTGCCTGAATTGTACTGTATGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAA 823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAATCTGAACCCAAGTGAAAAAACA 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAATCTGAACCCAAGTGAAAAAAACA 763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Jorganisma "Homo sapiens"

/db_xref="taxon:9606"
/clone=lib="NIMAGE:5809629"

/clone=lib="NIMAGE:5809629"

/clone=lib="NIMAGE:5809629"

/clone=lib="NIMAGE:5809629"

/tissue_type="mixed [pool of 40 RNAs]"
/lab_host="DBIOB (T1:Phage-resistant)"
/lab_host="DBIOB (T1:Phage-resistant)"
/lab_host="DBIOB (T1:Phage-resistant)"
/lab_host="DBIOB (T1:Phage-resistant)"
/lab_host="DBIOB (T1:Phage-resistant)"
/lab_host="Nector: DDINR-LIB; Site_1: Sfi! (ggccattatggcc);
/lab_host="DBIOB (T1:Phage-resistant)"
/lab_host="NECTOR: DDINR-LIB; Site_1: Sfi! (ggccattatggcc);
/lab_host="DBIOB (T1:Phage-resistant)"
/lab_host="NECTOR: DBIOM: Site_1: Sfi! (ggccattatggcc);
/lab_host="NECTOR: DBIOM: Sfi! (ggccattatggcc);
/lab_host="NECTOR: DBIOM: Site_1: Sfi! (ggccattatggcc);
/lab_host="NECTOR: DBIOM: Nector: DBIOM: Nec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    50.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 708.8; DB 14; Length 910; Pred. No. 1.4e-74; 0; Mismatches 7; Indels 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <u>بر</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                               1243
                                                                                                                                                                                                                                                                                                                                                                                                      1123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  242
                                                                                                                                                                                                                                                                                                                 542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        883
```

Вb Ş 망 Q 밁 QΥ 밁 ş

õ В Qy 밁 ρ DЬ QΥ DP QA 밁

ş

575 TTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGCAACAGCTGGTGG 634

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 6
BQ772048/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
     Query Match
Best Local Similarity
Matches 753; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1303 CTTATTGGAAGT 1314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    723 CTTATTGGAAAT 734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    603 TTACACTATCTGATTAATAGTTTCTTCATACTCCGCATATAATTTGTGGCTGCACAATAT 662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BQ772048 761 bp mRRA linear UI-H-EZ1-bbk-l-10-0-UI.sl NCI_CGAP_Ch2 Homo sapiens UI-H-EZ1-bbk-l-10-0-UI 3', mRNA sequence. BQ772048 BQ772048.1 GI:21980524 EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished (1997)
Contact: Robert Strausberg, Ph.D.
Email: cgabs-rémail.nih.gov
Tissue Procurement: Dr. Steven Gitelis/ Rush Presbiterian, Dept. of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalla; Eutheria; Primates; Catarrhini; Hominidae; 1 to 761)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Pro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    from Dr. M. Bento Soares
Seq primer: M13 FORWARD
POLYA=Yes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cDNA Library preparation: Dr. M. Bento Soares, University of Iowa CDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa DNA Sequencing by: Dr. M. Bento Soares, University of Iowa Clone Distribution: Clone distribution information can be obtained from Dr. M. Bento Soares, bento-soares@ulowa.edu
                                                                                                                             258
                                                                                                                                                                                                                                      /Organism="Homo sapiens"
/db_xref="taxon:966"
/dlone=lib="NCI_Dbk-1-10-0-UI"
/clone=lib="NCI_CGAP_Ch2"
/clone=lib="NCI_CGAP_Ch2"
/tissue_type="Chondrosarcoma Grade II"
/dev_stage="Mault"
/dev_stage="Mault"
/lab_host="DH1DB (Life Technologies)"
/lab_host="DH1DB (Life Technologies)"
/note="Organ: Left Pelvis; Vector: pT7T3-Pac (Pharmacia)
with a modified polylinker; Site_1: Ecor I; Site_2: Not I;
NCI_CGAP_Ch2 is a normalized cDNA library containing the
following tissue(s): chondrosarcoma Grade II. The library
was constructed according to Bonaldo, Lennon and Soares,
Genome Research, 6:791-806, 1996. First strand cDNA
synthesis was primed with an oligo-dT primer containing a
Not I site. Double stranded cDNA was ligated to an Ecor I
adaptor, digested with Not I, and cloned directionally
into pT7T3-Pac vector. The oligonucleotide used to prime
the synthesis of first-strand cDNA contains a library tag
sequence that is located between the Not I site and the
(dT)18 tail. The sequence tag for this library is
     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gene Index
                                                                                                                          TAG_LIB=UI-H-EZ1
TAG_TISSUE-grade-2-chondrosarcoma
TAG_TISSUE-TAGTO"
TAG_SE0=ATCTAATATG"
143 c 125 g 235 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                       50.4%;
Score 708.4; DB 14;
Pred. No. 1.8e-74;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Genome Anatomy Project (CGAP),
                                                 14; Length 761;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hominidae;
     Indels 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST 26-JUL-2002
CDNA clone
     4;
```

```
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                             RESULT 7
AL530265
LOCUS
                                 REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                 g
                                                                                                                                                                         δõ
                                                                                                                                                                                       문
                                                                                                                                                                                                     Q
                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                               β Q
                                                                                                                                                                                                                                                                                                           25 P
                                                                                                                                                                                                                                                                                                                                                                 β Q
                                                                                                                                                                                                                                                                                                                                                                                           뫄
                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
VQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
FEATURES
                           COMMENT
                                                                                                                       DEFINITION
                                                                             ORGANISM
                                                                                                                                                                                                          1235
                                                                                                                                                                                                                                      1175
                                                                                                                                                                                                                                                                  1115
                                                                                                                                                                                                                                                                                               1055
                                                                                                                                                                                                                        158
                                                                                                                                                                                                                                                                                                             338
                                                                                                                                                                                                                                                                                                                                                      935
                                                                                                                                                                                                                                                                                                                                                                    458
                                                                                                                                                                                                                                                                                                                                                                                                 518
                                                                                                                                                                                                                                                                                                                                                                                                              815
                                                                                                                                                                                                                                                                                                                                                                                                                                                        637
                                                                                                                                                                                                                                                    218
                                                                                                                                                                                                                                                                                278
                                                                                                                                                                                                                                                                                                                          995
                                                                                                                                                                                                                                                                                                                                         398
                                                                                                                                                                                                                                                                                                                                                                                   875
                                                                                                                                                                                                                                                                                                                                                                                                                             578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 754
                                                                                                                                                                                                                                                                                                                                                                                                                                          755
                                                                                                                                                                                            98
                                                                                                                                                                 38
                                                                                                                                                               ATGGAAAGATTACACTATCTGATTAATAGTTTCTTCATACTCTGCATATAATTTGTGGCT 1234
                                                                                                                                                                                                                                                   TATATTTTGTTTTGATGTTTATATTGGCATGTTTAGATGTCAGGTTTAGTCTTCTGAAGA
                                                                                                                                                                                                                                                                                                                   TATATTTTGTTTTGATGTTTATATTTGGCATGTTTAGATGTCAGGTTTAGTCTTCTGAAGA 1054
                                                                                                                                                                                                                                                                                                                                       CTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAATCTGAACCCAAGT
                                                                                                                                                                                                                                                                                TGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCAGGTGAGGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGTTG
                                                                                         prime, mRNA
AL530265
AL530265.1
EST.
           Contact: Genoscope
Genoscope - Centre National de So
BP 191 91006 EVRY cedex - France
                                Li,w.B., Gruber,C., Jessee,J. of Full-length cDNA libraries and Unpublished (2001)
                                                     Eukaryota; Metazoa; Mammalia; Eutheria; 1 (bases 1 to 945)
                                                                                                                   AL530265 LTI_NFL001_NBC4
      Email:
                                                                             Homo sapiens
                                                                                   human
                                                                                                              mRNA sequence
     segref@genoscope.cns.fr,
                                                                                                 GI:12793758
                                                            Chordata;
Primates;
                                                                                                                     Ното
                                                                                                                            945
                                                                                                                     bp mRN
o sapiens
                                        and Polayes,D. d normalization
                                                            Craniata; Ve
Catarrhini;
                  Sequencage
      Web
                                                                                                              mRNA
     ••
                                                                    Vertebrata;
     .genoscope.cns
                                                              Hominidae;
                                                                                                                     linear EST 13-FEB-2001 clone CSODD009YH19 5
                                                                    Euteleostomi;
                                                                                                                                                                                                                                                                                                           279
                                                                                                                                                                                                                                                                                                                                        339
                                                                                                                                                                                                                                                                                                                                                                                               459
                                                                                                                                                                                                                                                                                                                                                                                                              874
                                                                                                                                                                                                                                                                                                                                                                                                                            519
                                                                                                                                                                                                                                                                                                                                                                                                                                                        579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                698
                                                                                                                                                                                                                                                                                                                                                                                BASE COUNT
ORIGIN
     뫄
               δõ
                                В
                                           Qy
                                                            밁
                                                                       δÃ
                                                                                         В
                                                                                                     Qγ
                                                                                                                    đ
                                                                                                                               QΥ
                                                                                                                                                 망
                                                                                                                                                            Q
                                                                                                                                                                             밇
                                                                                                                                                                                         δÃ
                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                   뫄
                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                 멍
                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 835
                                                             541
                                                                                         481
                                                                                                        444
                                                                                                                     421
                                                                                                                                                                                                                                      181
     660
                                 601
                                                                          504
                                                                                                                                   384
                                                                                                                                                               372
                                                                                                                                                                             301
                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                 121
                                                                                                                                                 361
                                                                                                                                                                                                         241
                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                 ATCAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATC
                                                                                                                                                                                                                                            GGGGTTGGAAAGTCTTGCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTAC
     ACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCA
                                                                                                                                                TACAGAGGAGCCCATGGCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAAT
                                                                                                                                                                                                                                      GGGGTTGGAAAGTCTTGCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTAC
```

```
280
                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="CSODD009YH19"
/clone_lib="LTI_NFL001_NBC4"
/sex="male"
/tissue_type="neuroblastoma ce/lab_host="DH10B"
                                                                                            ø
                                                                            /note-"organ: brain; Vector: pCMVSPORT 6; 1st strand cDNA was primed with a NotI-oligo(dT) primer. Five prime end enriched, double-stranded cDNA was digested with Not I and cloned into the Not I and Eco RV sites of the pCMVSPORT 6 vector. Library was normalized. Library was constructed by Life Technologies. Contact: Feng Liang Life Technologies. Contact: Feng Liang Life Technologies, a division of Invitrogen 9800 Medical Center Drive Rockville, Maryland 20850, USA Fax: (1) 301 610 8371 Email: fliang@lifetech.com URL: http://fulllength.invitrogen.com" http://fulllength.invitrogen.com"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                            cells"
Length
945;
```

AGTCAGGGCGGCGCTGCGGCAGCAAGGGCGGCGGTGGCGGNGGCGGCAGCNGCAGTNAC Similarity Conservative 50.4%; Score 707.8; DB 9; Pred. No. 1.8e-74; 5; Mismatches 7; Indels 98; Gaps 180 120 60 Ψ

AAGCTTCAAATA---**AAGCTTCAAATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACCTCCAGTTAT** ATCAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATC 360 300 371

359 240 299

AATGTTAAACAGTGGCTGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAACAAATTG **AATGTTAAACAGTGGCTGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAACAAATTG** 480 443

503

420 383

GAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGAAT 563 540

600

GTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGCA ACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCA 623 659

.;

Query Match 50.1%; Score 704.4; DB 1: Length 1105; Best Local Similarity 86.0%; Pred. No. 4.1e-74; Matches 899; Conservative 0; Mismatches 43; Indels 103; Gaps 7; Qy 1 AAGCGATAGCTGAGT-GCGGCGGCTGCTGATTGTGTTCTAGGGGAACGAGTAGGGGAAGA 59	// // // // // // // // // // // // //	Tissue Procurement: ATCC/DCTP/DTP CDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (Linl) DNA Sequencing by: Agencourt Bioscience Corporation Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/Linl at: http://image.llnl.gov Plate: LLAM12200 row: j column: 12 High quality sequence stop: 733. FEATURES 11105	ACCESSION BM452262 ACCESSION BM452262.1 GI:18501302 VERSION BM452262.1 GI:18501302 KEYWORDS EST. SOURCE human. ORGANIEM Homo sapiens ORGANIEM Homo sapiens CORGANIEM Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. AUTHORS I (Dases I to 1105) TITLE National Institutes of Health, Mammalian Gene Collection (MGC) JOURNAL Unpublished (1999) COMMENT Contact: Robert Strausberg, Ph.D. Fmail: Canhearmanian Gene Collection Fmail: Canhearmanian Gene	7	684 -GGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGG
	OY 743 CTGAACCCAAGTGAAAAACGAATGCCTGAATTGTTAGTAGCTGCACTACAAC 802	OY	384 ANTGTTAAACAGTGCCTGCAGGAATRGATGCTTATGCCAGTGAAAATGTCAACAAATTG	QY 360 AAGCTTCAAATA 371	122 AGTCAGGCGGCGGCGGCAGCAAGGGCGGCGGCGGCGGCGGCGG

```
δÃ
                                                                                                                                                                              밁
                                                                                                                                                                                                                        δõ
                                                                                                                                                                                                                                                                                                           γQ
                                     δ
                                                                                        В
                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                    οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local 717;
484
                                                                                                                                                                                544
                                                                                                                                                                                                                          789
                                                                                                                                                                                                                                                                         604
                                                                                                                                                                                                                                                                                                                  729
                                                                                                                                                                                                                                                                                                                                                                 663
                                                                                                                                                                                                                                                                                                                                                                                                             669
                                                                                                                                                                                                                                                                                                                                                                                                                                                       723
                                                                                                                                                                                                                                                                                                                                                                                      CCAGTCAAGCAGTCAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGC 728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGGGTCCCGGAGCAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACT 668
                                                                                                                                                                                                     AGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAAT
                                                                                                                                                                                                                                                                                              AATGAATTTGCAATCTGAACCCAAGTGAAAAAACAAAATTGCCTGAATTGTACTGTATGT 788
                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGGGGTCCCGGAGCAACAGCTGTGTNNGCTGAGAAGTCCAATGTTAAAATTCAGAGCACT 664
                                              AAACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACC
                                                                                                          ACTGACTTTTTTTTTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTT
                                                                                                                                                                                                                                                                      AATGAATTTGCAATCTGAACCCAAGTGAAAAAAAAAAATTGCCTGAATTGTACTGTATGT
                                                                                                                                                                                                                                                                                                                                                               CCAGTCAAGCAGTCAGGTGGAGGTTGCTGCTAAAA-TTGCCTCCATCCTTTTCTCACAGC
                                                                                                                                                                                AGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Jose Mercuende
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tumor Gene Index 
Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Verte
Mammalia; Eutheria; Primates; Catarrhini; Hom
1 (bases 1 to 725)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       from Dr. M. Bento Soares, bento-soares@uiowa.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDNA Library preparation: Dr. M. Bento Soares, University of Iowa CDNA Library Arrayed by: Dr. M. Bento Soares, University of Iowa DNA Sequencing by: Dr. M. Bento Soares, University of Iowa Clone Distribution: Clone distribution information can be obtained
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  National Cancer Institute, Cancer Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  primer: M13 FORWARD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="Organ: Knee; Vector: pT773-Pac (Pharmacia) with a modified polylinker; Site_1: EcoR I; Site_2: Not I; NCI_CGAP_Ctl is a normalized cDNA library containing the following tissue(s): Osteoarthritic Cartilage The library was constructed according to Bonaldo, Lennon and Soares, Genome Research, 6:791-805, 1996. First strand cDNA synthesis was primed with an oligo-dT primer containing a Not I site. Double stranded cDNA was ligated to an EcoR I adaptor, digested with Not I, and cloned directionally into pT7T3-Pac vector. The oligonucleotide used to prime the synthesis of first-strand cDNA contains a library tag sequence that is located between the Not I site and the (dT).8 tail. The sequence tag for this library is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TAG_TISSUE-osteoarthritic cartilage
TAG_SEQ-TGATCACGCT"
135 c 120 g 221 t 2 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /db_xref="taxon:9606"
/clone="UI-H-EUI-bai.k-14-0-UI"
/clone_lib="NCI_CGAP_Ct1"
/closue_type="Osteoarthritic Cartilage"
/dev_stage="Adult"
/lb-bcg="purop_uff6" "Dobalogica"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TAG_LIB=UI-H-EU1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /lab_host="DH10B (Life Technologies)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                50.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 703.6; DB 1
Pred. No. 6.8e-74;
0; Mismatches 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 14; Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                          848
                                                                                                                                                                                                                                                                      545
                                            968
                                                                                                                                  908
                                                                                                                                                                                485
                                                                                                                                                                                                                                                                                                                                                            605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ۲,
```

```
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BI913092
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1089
                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCTGATTT 1148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAAA 1332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCATACTCTGCATATAATTTGTGGCTGCAGAATATTGTAATTTTGTTGCACACACTATGTAAC 1268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTAGTTCTTCCTTGTAGAGTTATAAATGGAAAGATTACACTATCTGATTAATAGTTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGATGTCAGGTTTTAGTCTTCTGAAGATGAAGTTCAGCCATTTTGTATCAAACAGCACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGACTGTTTCCCGTGGTTGGTTAGAATATATTTTGTTTTGATGTTTTATATTTGGCATGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTAGTTCTTCCTTGTAGAGTTATAAATGGAAAGATTACACTATCTGATTAATAGTTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCTGATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGACTGTTTCCCCGTGGTTGGATAGAATATTTTTGTTTTGATGTTTATATTGGCATGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCATACTCTGCATATAATTTGTGGCTGCAGAATATTGTAATTTGTTGCACACTATGTAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCCATTTTGTATCAAACAGCACAAG
                                                                                                                                                                                                                                                                                                                                                                                                               Tissue Procurement: Life Technologies, Inc. cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                                                                 found through the I.M.A.G.E. Consortium/LLNL
http://image.llnl.gov
Plate: LLMNL1615 row: m column: 23
High quality sequence stop: 784.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mammalia; Eutheria; Primates; Catarrhini.
1 (bases 1 to 796)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       603179695F1 NIH_MGC_121 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BI913092.1 GI:16177393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA sequence.
/note="Organ: brain; Vector: pCMV-SPORT6; Site_1: Not Site_2: EcoRV (destroyed); RNA source anonymous pool fetal brains, female age 20 weeks, female age 24 week and male age 26 weeks. Library is oligo-dT primed an directionally cloned (EcoRV site is destroyed upon cloning). Average insert size 1.7 kb, insert size rolo.7-3.5 kb. Library is normalized and enriched for full-length clones and was constructed by C. Gruber (Invitrogen). Research Genetics tracking code 017.
                                                                                                                                                                                   /clone="IMAGE:5244094"
/clone_lib="NIH_MGC_121"
/lab_host="DH10B"
                                                                                                                                                                                                                                                  /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          þ
                                                                                                       id); RNA source anonymous pool of
le 20 weeks, female age 24 weeks,
Library is oligo-dT primed and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cDNA clone IMAGE:5244094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          linear
                                                               stroyed upon
insert size range
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EST 16-OCT-2001
SE:5244094 5',
                                                                                                                                                 NotI;
ool of 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ഗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1028
                                                                                                                                                                                                                                                                                                                                                                                                                     be
```

```
RESULT 11
BM971301/c
LOCUS
    ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
ORIGIN
                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 754;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                               1204
                                                                                                                                                                                                                                                                                                                                                                                                            1144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1024
                                                                                                                                                                                                                                                1264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      665 CACTCCAGTCAAGCAGTCAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCA 724
                                                                                                                                                                                                         778
                                                                                                                                                                                                                                                                                                                                                                        658
                                                                                                                                                                                                                                                                                                                                                                                                                                                     598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      964 ATACCAGACTGTTTCCCGTGGTTAGGTAGAATATATTTTGTTTTGATGTTTATATTTGGCA 102:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               358 TCAATACTGACTTTTATTTTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACT 417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     844 TCAATACTGACTTTTTTTTTTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACT 903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           238 CAGCAATGAATTTGCAATCTGAACCCAAGTGAAAGAAACAAGAATGCCTGAATTGTACTG 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  605 GCGAATGGGTCCCGGAGCAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAG 664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 AGACTACACAACAGCGAAGGAA-TTGCTGATTCCCT--GGAATTCCGTTTTGGAAACCAG 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACAAGCAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCT 1143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAGCAATGAATTTGCAATCTGAACCCAAGTGAAA-AAACAAAATTGCCTGAATTGTACTG 783
                                                                                                                                                                                                                                                                                                                                                                                             GATTTGCTAGTTCTTCCTTGTAGAGTTATAAATGGAAAGATTACACTATCTGATTAATAG 120:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTTTTAAACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTG 963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TATGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGG 843
                                                                                                                                                                                                                                           GTAACAAA 1271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGTTTAGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCCATTTTGTATCAAACAGC 1083
                                                                                                                                                                                                                                                                                                            TTTCTTCATACTCTGCATATAATTTGTGGCTGCAGAATATTGTAATTTGTTGCACACTAT 1263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTTTTAAACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TATGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGACTACACAACAGCGAAGGAATTTGCTGATTCCCTTGGAATTCCGTTTTTTGGAAACCAG 544
                                                                                                                                                                                                         GTACAAAA
                                                                                                                                                                                                                                                                                      TTTCTTCATACTCGTGCATATAATCTGGGGTGCAGAATATGGTAATTTGTGGCACACTAT
                                                                                                                                                                                                                                                                                                                                                                   GATTTGCTAGTTCTTCCTTGTAGAGTTATAAATGGAAAGATTACACTATCTGATTAATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACAAGCAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATACCAGACTGTTTCCCGTGGTTAGAATATATTTTGGTTTTGGATGTTTATATGGGCA 537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGCTAAGAATGCAACGAATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAA 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGCTAAGAATGCAACGAATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAA 604
  BM971301 760 bp mRNA linear EST 21-MAR-2002 UI-CF-EC1-abl-a-17-0-UI.S2 UI-CF-EC1 Homo sapiens cDNA clone UI-CF-EC1-abl-a-17-0-UI 3', mRNA sequence. BM971301 BM971301 GI:19588888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          this is a NIH_MGC Library."
a 140 c 168 g 253 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 702;
Pred. No. 9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 13;
.8e-74;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   796;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                  657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               357
                                                                                                                                                                                                                                                                                                                                                                   717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ψ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
Ş
                                      밁
                                                                          δÃ
                                                                                                                   망
                                                                                                                                                       δÃ
                                                                                                                                                                                                    В
                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                        625
768
                                                                               708
                                                                                                                        683
                                                                                                                                                              648
                                                                                                                                                                                                                          588 GCAGCTGAGATTAAAAAGCGAATGGGTCCCCGGAGCACACAGCTGGTGGTGCTGAGAAGTCC 647
                                                                                                                                                                                                    741 GCAGCTGAGATTAAAAAGCGAAT-GGTCCCGGAGCAACAGCT-GTGTGNCTGAGAAGTCC
                                                                AATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGTTGCTGCTAAAATTTG 707
TGCCTGAATTGTACTGTATGTAGCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGT 827
                                        AATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCAGGTGGAGG-TGCTGCTAAAA-TTG
                                                                                                                                                                                                                                                                                    738;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    McCray Lab
University of Iowa
2024 University of
Tel: 319 356 4866
Fax: 319 356 7171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: paul.mccray@uiowa.edu
Tissue Procurement: Dr. M. J. Welsh, University of Iowa
cDNA Library preparation: Dr. M. Bento Soares, University of Iow
cDNA Library Arrayed by: Dr. M. Bento Soares, University of Iow
DNA Sequencing by: Dr. M. Bento Soares, University of Iowa
Clone Distribution: Researchers may obtain clones from Research
Genetics (www.resgen.com).
Seq primer: M13 FORWARD
POLYA-Yes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 760)
Bonaldo, M.F., Lennon, G. and Soares, M.B.
Normalization and subtraction: two approaches to facilitate gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   human.
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: McCray, PB
                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                      255
                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /db_xref="Homo sapiens"
/db_xref="taxon:9606"
/clone=lib="UI-CF-ECI"
/clone_lib="UI-CF-ECI"
/clone_lib="UI-CF-ECI"
/clone_lib="UI-CF-ECI"
/clone_lib="UI-CF-ECI"
/tissue_type="Lung"
/dev_stage="Adult and Fetal"
/lab_host="NHIOB (Life Technologies) (Ti phage resistant)"
/note="organ: Lung; Vector: pT7T3-Pac (Pharmacia) with a modified polylinker; Site_1: EcoR I; Site_2: Not I;
/note="organ: Lung; Vector: pT7T3-Pac (Pharmacia) with a modified polylinker; Site_1: EcoR I; Site_2: Not I;
/note="organ: Lung; Vector: pT7T3-Pac (Pharmacia) with a modified polylinker; Site_1: EcoR I; Site_2: Not I;
/note="organ: Lung; Vector: PT7T3-Pac (Pharmacia) with a modified polylinker; Site_1: Double stranded cDNA was ligated to an EcoR I adaptor, digested with Not I, and cloned directionally into pT7T3-Pac vector. The oligonucleotide used to prime the synthesis of first-strand cDNA contains a library tag sequence that is located between the Not I site and the (dT)18 tail. The sequence tag for this library is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Res. 6 (9), 791-806 (1996)
                                                                                                                                                                                                                                                                                                                                                                                         þ
                                                                                                                                                                                                                                                                                                                                                                                                       AAGTGCTTAC..
TAG_LISUE-NOrmal Lung Epithelial Cells Tissue nos 369-371
and 380-383
and 380-383
                                                                                                                                                                                                                                                                                                                                                                                    TAG_SEQ=AAGTGCTTAC"
142 c 125 g'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                     49.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of Iowa
                                                                                                                                                                                                                                                                               Score 692.8; DB 14; Length 760; Pred. No. 1.2e-72; 0; Mismatches 3; Indels 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Med Labs, Iowa City,
                                                                                                                                                                                                                                                                                                                                                                                         236 t
                                                                                                                                                                                                                                                                                                                                                                                         2 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ΙA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sity of Iowa
                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                     626
                                      566
                                                                                                                                                                                                    684
```

Ş

밁 Qy g

Š 밁 Q В Q В

4.

밁

Ş

ΩY

В

δĀ

Ф ΩÝ 밁 γQ 밁 Q В Q В Š 밁 ρy

В

```
REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                     VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                             RESULT 12
BM919860
LOCUS
                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                 δõ
                                                                                                                                                                                                                                                                                                                                                                                                                        д
                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1008
                                       source
                                                                                                                                                                                                                                                                                                                                                                                                       1248
                                                                                                                                                                                                                                                                                                                                                                                                                                            1188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1068
                                                                                                                                                                                                                                                                                                                                                                                                                         145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          888
                                                                                                                                                                                                                                                                                                                                                                                                                                                               205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               828
                                                                                                                                                                                                                                                                                                                                               25
                                                                                                                                                                                                                                                                                                                                                                                    85
                                                                                                                                                                                                                                                                                                                                                                                  ACTATCTGATTAATAGTTTCTTCATACTCTGCATATAATTTGTGGCCTGCAGAATATTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTTATATGTAAGATCTGATTTGCTAGTTCCTTCCTTGTAGAGTTATAAATGGAAAGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TTTTGTATCAAACAGCACAAGCAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GATGTTTATATTGGCATGTTTAGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGAAGTAAAAAAAAAAAAAAAAAA
                                                                                                                                                                                                                                                                                                                                                                TGGAAGTAAAAAAAAAAAAAAAAA 1332
                                                                                                                                                                                                                                                                                                                                                                                                                        ACTATCTGATTAATAGTTTCTTCATACTCTGCATATAATTTGTGGCTGCAGAATATTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTTATATGTAAGATCTGATTTGCTAGTTCTTCCTTGTAGAGTTATAAATGGAAAGATTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTTTGTATCAAACAGCACAAGCAGTGTCTGTCACTTTCCATGCATAAAGTTTAGTGAGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATGTTTATATTGGCATGTTAGATGTCAGGTTTAGTCTTCTGAAGATGAAGTTCAGCCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTTCATTTTCAGAACTGTTTTAAACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            976 bp AGENCOURT_6708189 NIH_MGC_120 Ho 5', mRNA sequence.
BM919860
                                                                 CDNA Library Preparation: Life Technologies, Inc. CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Agencourt Bioscience Corporation Clone distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at: http://inage.llnl.gov plate: LLAM12779 row: f column: 04
                                                                                                                                     Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Life Technologies,
                                                                                                                                                                                                                                               EST
                                                                                                                                                        Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                 NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
Unpublished (1999)
                                                                                                                                                                                                        Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                        вм919860.1
                                                                                                                                                                                                                                       human
                                                                                                                                                                                            numalia; Eutheria; (bases 1 to 976)
                                              quality sequence stop:
Location/Qualifiers
/organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:5749635"
/clone_lib="NIH_MGC_120"
                                                                                                                                                                                                       Chordata;
Primates;
                                                                                                                                                                                                       Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                     Homo
                                                                                                                                                                                                                                                                                    sapiens
                                                                                                                                                                                                                                                                                              mRNA
                                                                                                                                     Inc.
                                                                                                                                                                          Gene Collection (MGC)
                                                                                                                                                                                                                                                                                    CDNA clone IMAGE:5749635
                                                                                               can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1127
                                                                                                                                                                                                                                                                                                                                                                                                                                                               146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1007
                                                                                                                                                                                                                                                                                                                                                                                                                        86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       386
                                                                                               bе
                                             멍
         В
                         Š
                                                                ΩÃ
                                                                                   В
                                                                                                   Ω
                                                                                                                           밁
                                                                                                                                          Ωy
                                                                                                                                                                 밁
                                                                                                                                                                               Q
                                                                                                                                                                                                      В
                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                     ₽
                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                           DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query
Best L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 832;
                                                                                                                          613
                                                                                                                                              520
                                                                                                                                                                  553
                                                                                                                                                                                                        493
                                                                                                                                                                                                                                                                                    373
                                                                                                                                                                                                                                                                                                       372
                                                                                                                                                                                                                                                                                                                         313
                                                                                                                                                                                                                                                                                                                                             316
                                                                                                                                                                                                                                                                                                                                                                                                      193
                            700
                                                                                                       580
                                                                                                                                                                                   460
                                                                                                                                                                                                                          400
                                                                                                                                                                                                                                             433
                                                                                                                                                                                                                                                                                                                                                                253
                                                                                                                                                                                                                                                                                                                                                                                   256
                                                                                                                                                                                                                                                                                                                                                                                                                        196
                                                                                                                                                                                                                                                                                                                                                                                                                                            133
                                                                                                                                                                                                                                                                                                                                                                                                                                                              136
          793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Match
```

ŝ

7,

```
Similarity
Conservative
                                                                                                                   þ
                                                                                                          /note-"Organ: pooled pancreas and spleen; Vector: pcMV-SPORT6; Site_1: NotI; Site_2: EcoRV (destroyed); RNA source anonymous pool of spleen and pancreas from 28 yo male. Library is oligo-dT primed and directionally cloned (EcoRV site is destroyed upon cloning). Average insert size 1.5 kb, insert size range 1-2.5 kb. Library is normalized and enriched for full-length clones and was constructed by C. Gruber (Invitrogen), Research Genetics tracking code 025. Note: this is a NIH_MGC Library."

a 196 c 246 g 248 t l others
                                                                                                                                                                                                                                                                                                                                                      /lab_host="DH10B"
                      49.2%;
87.6%;
0;
                      Score 691.8; DB : Pred. No. 1.3e-72
Mismatches
  18;
                                            14;
Indels
                                         Length
100;
                                            976;
Gaps
Ψ
```

GCGGCGGCTGCTGATTGTGTTCTAGGGGACGGAGTAGGGGAAGACGTTTGCTCTCCCGGA TGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGCAACAGCTGGTGGTGCTG TTGGAATTTCCGTTTTTTGGAAACCAGTGCTAAGAATGCAACGAATGTAGAACAGTCTTTCA TGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAACAAATTGTTGGTAGGGAACAAAT TGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATCAAGCTTCAAATA----AGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGTTGCTGCT TGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAACAAATTGTTGGTAGGGAACAAAT TGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATCAAGCTTCAAATATGGG CCGAATATGATTATTCAAGTTACTTCTCATTGGCGACTCAGGGGTTGGAAAGTCTT GCGGCAGCAAGGGCGGCGGCGGCGGCGGCAGCTGCAGTGACATGTCCAGCATGAATC GCGGCGGCTGCTGATTGTGTTCTAGGGGGACGGAGTAGGGGGAAGACGTTTGCTCCCCGGA AAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAATCTGAACCCCCAGTGAAA TGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGCAACAGCTGGTGGTGCTG ACACAGCAGGCCAGGAAAGATTTCGAACAATCACCTCTAGTTATTACAGAGGAGCCCATG AGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGTTGCTGCT GCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAATAATGTTAAACAGTGGC -GAGTCCTTCAATAATGTTAAACAGTGGC 552 672 579 519 459 399 432 371 372 312 255 192 195 132 135 759 699 612 492 371 252 72 792

В Ş B 8

```
REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 13
BI086445
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 754; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                        797
                                                              181
                                                                                                737
                                                                                                                                      121
                                                                                                                                                                            677
                                                                                                                                                                                                                                                    617
                                                                                                                                                                                                                                                                                                                              557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          819 CACAAAGGTCAGAGA---TTGTAAATGGTCAATACTGACTTTTTTTTTAT 865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                853 AACAAAATTGCCTGAATTGTACTGGATGTAGCTGCACTACAACAGAATTCTTACCGTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 760
                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                      TGCANTCTGAACCCAACTGAAAAACAAAATTGCCTGANTTGTACTGTATGTAGCTGCAC
                                                                                                                             GCAGTCAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATT 736
                                                                                                                                                                                                       CGGAGCAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAA 676
  TACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTT 856
                                                                                                                                                                                                                                                                                                                       AACGAATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCC 616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CACAAAGGTCAGAGAATTGTAAAATGGNTCAATACTGGACCTTTTTTTT 962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACAAAATTGCCTGAATTGTACTGTATGTAGCTGCACTACAACAG-ATTCTTACCGTCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDMA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: Incyte Genomics, Inc.
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM11008 row: f column: 02
High quality sequence stop: 758.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleosto Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 837)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mRNA sequence.
BI086445
BI086445.1 GI:14504775
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BI086445
602849703F1 NIH_MGC_10 Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                              248
                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="Organ: cervix; Vector: pCMV-SPORT6; Site_1: NotI; Site_2: SalI; Cloned unidirectionally. Primer: Oligo dT. Average insert size 1.5 kb. Library prepared by Life Technologies."

134 c 174 g 281 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone="IMAGE:4991233"
/clone_lib="NIH_MGC_10"
/cell_line="MGC36"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                               49.2%;
                                                                                                                                                                                                                                                                                                                                                                pred. No. 2.10
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                  Mismatches 14; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7 bp mRNA linear EST 20-JUN-2001 sapiens cDNA clone IMAGE:4991233 5',
                                                                                                                                                                                                                                                                                                                                                                                    .1e-7
                                                                                                                                                                                                                                                                                                                                                                                                   DB 13; Length
                                                                                                                                                                                                                                                                                                                                                                                                      837;
                                                                                                                                                                                                                                                                                                                                                                5;
                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                       796
                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                912
                                                                                                                                                                                                                                                                                                                                                                  ű
                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 14
BM706159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                  COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1037
                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             857
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   720 AA-TGAAGATATGTTATAAAATATTGTACTTATTGGGAAGTAGTATCACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541 TGTCACTTTCCATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCTGATTTGCTAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361 GTGTGCTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACCAGACTGTT 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 917 GTGTGCTGGTTTTATAAAATAATGTGTGTGTAATCCTTGTTGCTTTCCTGATACCAGACTGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301 TTTGTTTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 TACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATACTGACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTTCCTTGTAGAGTTAT-AAATGGAAAGATTACAC-TATCTGATTAATAGTTTCTTCATA 1213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGTCACTTTCCATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCTGATTTGCTAGTT 1155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGTTTAGTCTTCTGAAGATGAAGTTCAGCCATTTTGTATCAAACAGCACAAGCA-GTGTC 1095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTTCCTTGTAGAGTTATAAAATGGAAAGATTACACGTATCTGATTAATAGTTTCTTCATA 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCCGTGGTTGGTTAGAATATATTTCGTTTAGATGTTTATATTGGCATGTTTAGATGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCCCGTGGTTGGTTAGAATATATTTTGTTTTGATGTTTATATTTGGCATGTTTAAGATGTCA 1036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTTTTTTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTAAACCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           UI-E-DWO-agg-f-10-0-UI.Fl UI-E-DWO Homo sapiens UI-E-DWO-agg-f-10-0-UI 5', mRNA sequence.
                                                                                       Bmail: msoares@blue.weeg.uiowa.edu
Tissue Procurement: Dr. Gregg Hageman
cDNA Library preparation: Dr. M. Bento Soares, Univeristy of Iowa
cDNA Library Arrayed by: Dr. M. Bento Soares, Univeristy of Iowa
cDNA Sequencing by: Dr. M. Bento Soares, Univeristy of Iowa
Clone Distribution: Researchers may obtain clones from Research
Genetics (www.resgen.com).
Seq primer: M13 Reverse.
Location/Qualifiers
                                                                                                                                                                                                                                                                 Contact: Soares, MB
Program for Rat Gene Discovery and Mapping
University of Iowa
451 Eckstein Medical Research Building Iowa
Tel: 319 335 8250
Fax: 319 335 9565
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 689)
Bonaldo,M.F., Lennon,G. and Soares,M.B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EST
                                                                                                                                                                                                                                                                                                                                                                                                                                     Bonaldo, M.F., Lennon, G. and Soares, M.B. Normalization and subtraction: two approaches
                                                                                                                                                                                                                                                                                                                                                                                                                        discovery
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BM706159.1 GI:19019417
                                                                                                                                                                                                                                                                                                                                                                                                   Genome Res. 6 (9), 791-806 (1996)
/organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="UI-E-DWO-agg-f-10-0-UI"
/clone_lib="UI-E-DWO"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear I
                                                                                                                                                                                                                                                                                                       City, IA 52242,
                                                                                                                                                                                                                                                                                                                                                                                                                                          ő
                                                                                                                                                                                                                                                                                                                                                                                                                                       facilitate gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EST 28
A clone
```

28-FEB-2002

540

600

480

976 360 916 300

r"

õ 밁 Ş Д δõ Дb δÃ 밁 δÃ

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                    1163
                                                                                                                                                                                                                                                                                                                                                1043
                                                                                                                                        601
                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGAA 562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTAGAGTTATAAATGGAAAGATTACACTA
                                                                GTAGAGTTATAAATGGAAAGATTACACTA 1191
                                                                                                                                TTCCATGCATAAAGTTTAGTGAGATGTTATATGTAAGATCTGATTTGCTAGTTCTTCCTT
                                                                                                                                                                                                                                                                     GGTTGGTTAGAATATATTTTGTTTTGATGTTTATATTGGCATGTTTAGATGTCAGGTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                             GGTTGGTTAGAATATATTTTGTTTTGATGTTTATATTGGCATGTTTAGATGTCAGGTTTA 1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGGTGGAGGTTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAAT 742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGGTGGAGGTTGCTGAAAATTTGCCTCCATCCTTTTCTCACAGCAATGAATTTGCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          689;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1996. First strand cDNA synthesis was primed with an oligo-dT primer containing a Not I site. Double stranded cDNA was ligated to an ECOR I adaptor, digested with Not I, and cloned directionally into pT/T3-Pac vector. The oligonucleotide used to prime the synthesis of first-strand cDNA contains a library tag sequence that is located between the Not I site and the (dT)18 tail. The sequence tag for this library is CGATTAGCGA. This library was created for the program, Gene Discovery in the Visual System, supported by National Eye Institute (NEI)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /tissue_type="lens"
/dev_stage="adult"
/dev_stage="adult"
/lab_host="DH10B (Life Technologies) (Tl phage resistant)
/note="Organ: eye; Vector: pT7T3-Pac (Pharmacla) with a
modified polylinker; Site_1: EcoR I; Site_2: Not I;
UI-E-DW0 is a cDNA library containing the following
tissue(s): lens. The library was constructed according the sound of the containing the following tissue(s): Lens. The library was constructed according to the containing the contai
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   49.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 689; DB 14;
Pred. No. 3.6e-72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 689;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             resistant)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
```

밁 δ 밁 Š 밁 Ş В

밁 Ωy

3

밁 Qγ 밁

ρy

В

Qy 밁 δĀ 밁 δÃ ₽ Qy 밁 Qy

γQ

```
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 15
BI092003
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOURCE
ORGANISM
               Š
                                               B
                                                                       δÃ
                                                                                                              Вb
                                                                                                                                        Ωy
                                                                                                                                                                               망
                                                                                                                                                                                                         QΥ
                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                               QУ
                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 719; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                 910
                                                                                                                                                                                                                                                                                                                                                   610
                                                                                                                                                                                                                                                                                                                                                                                                                    550
                                                 301
                                                                                                                  241
                                                                                                                                                                                   181
                                                                                                                                                                                                                                                  121
                                                                                                                                                790
                                                                                                                                                                                                                 730
                                                                                                                                                                                                                                                                                                                  61
                                                                CTGACTTTTTTTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTA
                                                                                                                                                                                                                                                                                                                                    TGGGTCCCGGAGCAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                    AGAATGCAACGAATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAAGCGAA
AACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTGTAATCCTTGTTGCTTTCCTGATACCA
                                                                                                                                 GCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATA
                                                                                                                                                                                                  CAGTCAAGCAGTCAGGTGGAGGTTGCTGCTAAAATTTGCCTCCATCCTTTTCTCACAGCA
                                                                                                                                                                                                                                                                   CAGTCAAGCAGTCAGGTGGAGGTTGCTAAAATTTTGCCTCCATCCTTTTCTCACAGCA
                                                                                                                                                                                                                                                                                                                                                                                   AGAATGCAACGAATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAAGCGAA
                                                 CTGACTTTTTTTTTATTCCCTTGACTCAAGACAGCTAACTTCATTTTCAGAACTGTTTTA
                                                                                                                  GCTGCACTACAACAGATTCTTACCGTCTCCACAAAGGTCAGAGATTGTAAATGGTCAATA
                                                                                                                                                                                   TGGGTCCCGGAGCAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: Incyte Genomics, Inc.
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAMI1025 row: c column: 01
High quality sequence stop: 727.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Robert Strausberg, Ph.D. Email: cgapbs-r@mail.nih.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 (bases 1 to 737)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mRNA sequence.
BI092003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BI092003
602856302F1 NIH_MGC_10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mammalia; Eutheria;
1 (bases 1 to 737)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BI092003.1 GI:14510333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  214
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="Organ: cervix; Vector: pCMV-SPORT6; Site_1: Not Site_2: Sall; Cloned unidirectionally. Primer: Oligo Average insert size 1.5 kb. Library prepared by Life Technologies."

135 c 147 g 241 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone="IMAGE:4997688"
/clone_lib="NIH_MGC_10"
/cell_line="MGC36"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                49.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Chordata;
Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 688.2; DB 13; Pred. No. 4.3e-72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens cDNA clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                    13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IMAGE: 4997688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EST 20-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ω,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                can
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                 789
                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                   669
                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                    609
                  969
                                                                                                                                                  849
                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NotI;
igo dT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5
'
                                                                                                                                                                                                                                                                                                                                                                                                                                                    2
```

ų,

```
Search completed: November 17, 2002, 13:01:48 Job time : 1946 secs
                                                                       361 AACCTTTGTGTGCTGGTTTATAAAATAATGTGTGTAATCCTTGTTGCTTTCCTGATACCA 420
```

Оу

DЬ Q 망 δõ 망 рβ

Q

	. *		
	**		
		•	
•	ing the state of t		
4.			<u> </u>

```
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OM protein -
                                                                        Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                         A_Geneseq_101002:*

1: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA1980.DAT:*
2: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA1981.DAT:*
3: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA1982.DAT:*
4: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA1983.DAT:*
5: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA1983.DAT:*
6: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA1984.DAT:*
6: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA1984.DAT:*
7: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA1987.DAT:*
8: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA1980.DAT:*
9: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA1980.DAT:*
10: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA1980.DAT:*
11: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
12: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
13: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
14: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
15: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
16: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
17: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
18: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
19: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
20: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
21: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
22: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
23: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
24: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
25: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
26: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
27: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
28: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
29: /SIDSZ/gcgdata/genesed/geneseqp-emb1/AA199.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-820-003A-2
886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    November 17, 2002, 11:38:17; Search time 66 Seconds (without alignments) 349.278 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       908470 segs, 133250620 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MSSMNPEYDYLFKLLLIGDS.....EKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd.
SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          908470
```

Result	Score	Query	Query Match Length DB	DB	ID	Description
1	860	97.1	205	21	AAB34843	Gene 44 human secr
N	860	97.1	205	21	AAB34844	Human secreted pro
ω	817	92.2	198	21	AAB34816	Human secreted pro
4	768.5	86.7	221	22	AA013525	Human polypeptide
_C	768.5	86.7	224	21	AAB58758	Breast and ovarian
6	766.5	86.5	201	20	AAY00919	Human Rab protein,
7	766.5	86.5	201	22	AAU28024	Novel human secret
8	683	77.1	205	22	ABB59808	Drosophila melanog
9	637	71.9	202	21	AAG07763	Arabidopsis thalia
10	633	71.4	202	21	AAG10858	Arabidopsis thalia

ᅏ

4 5	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11
387	387	390.5	390.5	393	393	399.5	400	403	403.5	403.5	403.5	403.5	405	408	409.5	414	414	417	419	428.5	428.5	•	428.5	11	429.5	431	442	444	580	612	612	612	618.5	619.5
ïω •	ω	٠.	44.1		4	45.1	45.1	5	45.5	5	5	5	5	σ.	σ.	•	5	47.1	47.3	48.4	48.4	8	48.4	8	48.5	8	49.9		5	9.	9	9.		69.9
199	199	246	209	204	201	218	141	130	218	200	200	200	163	207	335	207	207	221	213	254	253	216	216	234	224	215	216	218	197	254	221	218	203	258
21	21	21	22	22	21	22	21	21	21	22	21	21	21	22	22	22	22	23	22	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
AAB09981	AAB09980	AAB58196	ABG23365	ABB70670	AAB09982	ABG07266	AAG18483	AAG35036	AAB56993	AAB95340	AAB09979	AAB19165	AAG18482	ABB71647	ABG23366	AAB92628	AAG67154	ABP41333	ABB11916	AAG08687	AAG53944	AAG53945	AAG08688	AAG47825	AAG47826	AAG35215	AAG08006	AAG19220	AAG48820	AAG45323	AAG30709	AAG30710	3049	AAG30498
Rab10	Rab10		Novel human diagno		Canine RablO prote		2ea mays protein f	Arabidopsis thalia	Human prostate can		Human Rab10 protei		Zea mays protein f	T	Novel human diagno	prote	Amino acid sequenc	Human ovarian anti	7	Arabidopsis thalia			Arabidopsis thalia	thal	is thali	0	thali	thal	thal			thal	is thali	Arabidopsis thalia

ALIGNMENTS

KW K	RESULT AAB348 ID A XX AC A XX DT 2 XX DE G
Human; secreted protein; diagnosis; cytostatic; immunosuppressive; notropic; neuroprotective; antital; antitaliergic; hepatotropic; antidiabetic; antiinflammatory; antiulcer; vulnerary; anticonvulsant; antibacterial; antifungal; antiparastic; cardiant; gene therapy; cancer; immune disorder; cardiavascular disorder; wound healing; neurological disease; infectious disease; chromosome identification. Homo sapiens. WO200058356-A1. 05-OCT-2000. 22-MAR-2000; 2000WC-US07535. 26-MAR-1999; 99US-0172413. 17-DEC-1999; 99US-0172413. (HUMA-) HUMAN GENOME SCI INC. Rosen CA, Ruben SM, Komatsoulis G; WPI; 2000-594639/56.	1 43 AB348 AB348 6-JAN ene 4

```
밁
                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                         Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CC cytostatic; immunosuppressive; nootropic; neuroprotective; antivital; CC antiallergic; hepatotropic; antidiabetic; antifingal; antiparasitic; and cardiant. The polynucleotides and polypeptides are useful for CC preventing, treating or ameliorating a medical condition in e.g. humans, CC mice, rabbits, goats, horses, cats, dogs, chickens or sheep. The CC polypeptides can also be used as a food additive or preservative to cincrease or decrease storage capabilities. The polynucleotides are CC useful for chromosome identification. They are also useful as probes for CC diagnosing a disorder related to the female reproductive system, CC particularly breast and/or overy cancer. They are also useful in the gene CC diagnosis, treatment and prevention of cancer, immune disorders, CC cardiovascular disorders, wound healing, neurological diseases and CC infectious disease. AAC59957 to AAC59965 and AAB34772 represents sequence used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                               Human; secreted protein; diagnosis; cytostatic; immunosuppressive; nootropic; neuroprotective, antiviral; antiallergic; hepatotropic; antidiabetic; antiinflammatory; antiulcer; vulnerary; anticonvulsant; antibacterial; antifungal; antiparasitic; cardiant; gene therapy; cancer; immune disorder; cardiovascular disorder; wound healing; neurological disease; infectious disease; chromosome identification.
                                                                                                                                                                    Human secreted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     invention. Huma and cells the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fifty nucleic acid molecules in the prevention, treatment
                 Homo
                                                                                                                                                                                                     26-JAN-2001
                                                                                                                                                                                                                                                                      AAB34844 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      homologous to them, which are given in the exemplification of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAB34852 represent human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cardiovascular disorders and neurological diseases
                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                           89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     polynucleotide sequences given
                 sapiens
                                                                                                                                                                                                                                                                                                                                                         TAGGAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                        TAGGAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                           LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KLQIWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLQEIDRYASENVNKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KLQI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                        LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     secreted proteins given
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human secreted proteins have activities based on the tissues the genes are expressed in Examples of activities include:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                205 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Page 415-416; 425pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                    (first entry)
                                                                                                                                                                  protein sequence encoded
                                                                                                                                                                                                                                                                      Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97.1%;
84.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    given in AAB34773 to AAB34822. AAB34823 secreted polypeptide sequences and pro
                                                                                                                                                                                                                                                                      205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 860; DB Pred. No. 7.6e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         encoding human secreted proteins
and diagnosis of cancer, immune
neurological diseases -
                                                                                                                                                                                                                                                                                                                                                         205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     in AAC59966 to AAC60015 encode
                                                                                                                                                                  γd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 21;
.6e-79;
                                                                                                                                                                 gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                  44 SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       proteins,
                                                                                                                                                                  ID
                                                                                                                                                                  NO:132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         disorders,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1;
```

```
RESULT 3
AAB34816
                                                                                            밁
                                                                                                                           δÃ
                                                                                                                                                                    밁
                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                             Ω
                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     preventing, treating or ameliorating a medical condition in e.g. humans, mice, rabbits, goats, horses, cats, dogs, chickens or sheep. The polypeptides can also be used as a food additive or preservative to increase or decrease storage capabilities. The polynucleotides are useful for chromosome identification. They are also useful as probes for diagnosing a disorder related to the female reproductive system, particularly breast and/or ovary cancer. They are also useful in the gene therapy of breast and ovarian cancer. Nucleic acids, protein, antibodies, agonists and antagonists from the present invention are useful in the diagnosis, treatment and prevention of cancer, immune disorders, cardiovascular disorders, wound healing, neurological diseases and infectious disease, AAC59957 to AAC59965 and AAB34772 represents sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and cells the genes are expressed in Examples of activities include: cytostatic; immunosuppressive; nootropic; neuroprotective; antiviral; antiallergic; hepatotropic; intidiabetic; antiinflammatory; antilocer; vulnerary; anticonvulsant; antibacterial; antifungal; antiparasitic; and cardiant. The polynucleotides and polypeptides are useful for preventing, treating or ameliorating a medical condition in e.g. humans,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fifty nucleic acid molecules encoding human secreted proteins, useful in the prevention, treatment and diagnosis of cancer, immune disorders, cardiovascular disorders and neurological diseases -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Page 416-417; 425pp; English.
AAB34816 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAB34852 represent human secreted polypeptide sequences and proteins homologous to them, which are given in the exemplification of the present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The polynucleotide sequences given in AAC59966 to AAC60015 encode human secreted proteins given in AAB34773 to AAB34822. AAB34823 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    26-MAR-1999;
17-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200058356-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (HUMA-)
                                                                                           181
                                                                                                                             149
                                                                                                                                                                  121
                                                                                                                                                                                                       89
                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                     س
                                                                                                                                                                                                                                                                                                                                                          \vdash
                                                                                                                                                                                                                                                                                                                                                          MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI
                                                                                                          TAGGAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                                                                           LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA
                                                                                                                                                                                                                                                                               KLQI---
                                                                                                                                                                                                                                                                                                                     MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI
                                                                                                                                                                    LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA
                                                                                                                                                                                                                                            KLQIWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLQEIDRYASENVNKL
                                                                                                                                                                                                                                                                                                                                                                                               173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000-594639/56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CA,
                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ruben SM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human secreted proteins have activities based on the tissues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     205 AA;
                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000WO-US07535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENOME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0126511
99US-0172413
Protein;
                                                                                                                                                                                                                                                                                                                                                                                                              97.1%;
84.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Komatsoulis
 198
                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                           Score 860; DB Pred. No. 7.6e 0; Mismatches
                                                                                                                             173
A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          G
                                                                                                                                                                                                                                                                                                                                                                                                              DB 21;
.6e-79;
                                                                                                                                                                                                                                                                                 ESFUNVKQWLQEIDRYASENVNKL
                                                                                                                                                                                                                                                                                                                                                                                             0;
                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                             32;
```

ç

Gaps

۲,

60 60

88

148

```
The polynucleotide sequences given in AAC59966 to AAC60015 encode the CC hamsa secreted proteins diven in AAB34822. AAB34823 to AAB34823 represent human secreted polypeptide sequences and proteins CC invention. Human secreted polypeptide sequences and proteins and continued invention. Human secreted proteins have activities based on the tissues CC and cells the genes are expressed in Examples of activities include: CC cytostatic; immunosuppressive; noctropic; nattifulatory; antiparastic; and collistic immunosuppressive; noctropic; antifulatory; antiparastic; and collistic candidatory; antiparastic; and collistic individual; cc antiallergic; hepatotropic; antiparastic; antifulatory; antiparastic; and cc cardiant. The polynucleotides and polypeptides are useful for preventing, treating or ameliorating a medical condition in e.g. humans, cc polypeptides can also be used as a food additive or preservative to concrease or decrease storage capabilities. The polynucleotides are collapsoring a disorder related to the female reproductive system, cc diagnosing a disorder related to the female reproductive system, cc aponists and antagonists from the present invention are useful in the gene cc diagnosis, treatment and prevention of cancer, immune disorders, cardiovascular disorders, wound healing, neurological diseases and cc used in the exemplification of the present invention.
                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fifty nucleic acid molecules encoding human secreted proteins, useful in the prevention, treatment and disagnosis of cancer, immune disorders cardiovascular disorders and neurological diseases -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human: secreted protein; diagnosis; cytostatic; immunosuppressive; nootropic; neuroprotective; antiviral; antiallergic; hepatotropic; antidiabetic; antiinflammatory; antiulcer; vulnerary; anticonvulsant; antibnessit; antiparasitic; cardiant; gene therapy; cancer; immune disorder; cardiovascular disorder; wound healing; neurological disease; infectious disease; chromosome identification.
                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; Page 393-394; 425pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-MAR-1999;
17-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22-MAR-2000; 2000WO-US07535.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rosen CA, Ruben SM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200058356-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-JAN-2001 (first entry)
   61
                                                                   65
                                                                                                                                                                                               9
                                                                                                                       GQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLQEIDRYASENVNKLLVGNKCDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000-594639/56.
                                                                                                                                                                                                                                                   al Similarity 83.8
165; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       secreted protein sequence encoded by gene 44 SEQ ID NO:104.
                                                                                                                                                                                                                                                                                                                                                                                      198 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     990S-0126511.
990S-0172413.
                                                                                                                                                                                                                                                                                 92.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Komatsoulis G;
                                                                                                                                                                                                                                                   Score 817; DB
Pred. No. 1.6e
0; Mismatches
                                                                                                                                                                                                                                                       0;
                                     ----ESFNNVKQWLQEIDRYASENVNKLLVGNKCDL 96
                                                                                                                                                                                                                                                                                 DB 21;
.6e-74;
                                                                                                                                                                                                                                                                                                           Length 198;
                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                       32;
                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                       ۲,
```

밁 δÃ В δ

Дb QΥ

19

AAMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIK 78 SSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIK 61

Ŋ

Matches

Similarity

86.7%;

Score 768.5; Pred. No. 1. Mismatches

1.5e-69; 7; DB 22;

Indels 33; Length

Gaps

Ņ

221;

Conservative

8;

```
RESULT 4
AAO13525
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                               The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AAO00010-AAO13910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopoiesis regulating activity, tissue growth factor activity, inmunomodulatory activity and activity, tissue growth factor activity, in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; cytokine; cell proliferation; cell differentiation; gene th vaccine; peptide therapy; stem cell growth factor; haematopolesis; tissue growth factor; immunomobulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation.
                                        Note: The sequence data for this patent did not form specification, but was obtained in electronic format
                                                                                                                                                                                                                                                                                  Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune
                                                                                                                                                                                                                                                                                                                                                                                                                               28-FEB-2000; 2000US-0515126
18-MAY-2000; 2000US-0577409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AA013525
Sequence
                                                                                                                                                                                                                                         Claim 20; SEQ ID NO 27417; 1399pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                       Tang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-SEP-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200164835-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human polypeptide SEQ ID NO 27417.
                                                                                                                                                                                                                                                                                                                               N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                    (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                    inflammation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97
                       ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NVKIQSTPVKQSGGGCC 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2001-514838/56.
                                                                                                                                                                                                                                                                                                                               AAI93456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 standard;
                                                                                                                                                                                                                                                                                                                                                                       Liu C,
221 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                         Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Protein; 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AA.
                                        part of the printed directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          156
```

```
RESULT 5
RABSOTS 8
ADB 5779
ADB 7000
AD
                     CC Sequences AAF21614 - AAF22031 represent DNA sequences encoding human CC proteins AAB59711 - AAB59128. The DNA and protein sequences are CC associated with breast and ovarian cancer. Included in the invention are CC sequences AAF22032 - AAF22040 and AAB59129 which are used in the CC isolation and characterisation of the DNA and protein sequences of the CC invention. The breast and ovarian cancer associated DNA, protein, agonist CC or antagonist sequences exhibit cytostatic; immunosuppressive; CC nootropic; neuroprotective; antiviral; antiallergic; hepatotropic; CC antidabetic; antifinflammatory; antivicer; vulnerary; anticonvulsant; CC antibacterial; antifungal; antiparasitic and cardiant activity. The CC polynucleotide and protein sequences are used in the diagnosis of cancer, CC proteins, agonists and agonists may also be used in the diagnosis, CC proteins, autoimmune haemolytic anaemia, autoimmune thvroidi+i-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   antidiabetic; antiinflammatory; antiulcer; vulnerary; anticonvulsant; antibacterial; antifungal; antiparasitic; cardiant; immune disorder; Addison's disease; allergy; autoimmune haemolytic anaemia; autoimmune thyroiditis; diabetes mellitus; Crohn's disease; multiple sclerosis; rheumatoid arthritis; ulcerative colitis; cardiovascular disorder; wound healing; neurological disease.
         diabetes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 11; Page 895-896; 1299pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New human breast and ovarian cancer associated gene sequences and the polypeptides encoded by these genes, useful in the prevention, treatment and diagnosis of cancer, immune disorders, cardiovascular disorders and neurological diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rosen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       08-MAR-2000; 2000WO-US05881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200055173-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nootropic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ( HUMA - )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAB58758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAB58758 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2000-611515/58.
DB; AAF21661.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGGAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VGNKSDLTTKKVVDNTTAKEFADSLGIPFLETSAKNATNVEQAFMTMAAEIKKRMGPGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LQIWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESYANVKQWLQEIDRYASENVNKLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SGG-ERPNLKIDSTPVKPAGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     breast cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HUMAN GENOME
            mellitus,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              neurpprotective; antiviral;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ruben
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99US-0124270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cancer associated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ovarian cancer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
multiple sclerosis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      antigen protein sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cytostatic; immunosuppressive;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 antiallergic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -ESFNNVKQWLQEIDRYASENVNKLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hepatotropic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4.66
```

```
RRESULT 6
AAY(0919)
ID AAY(0919)
ID AAY(0919)
ID AAY(0919)
AC AAY(0
XX AAY(0
XX AAY(0
XX Rab
DE Huma
XX Rab
KW cell
KW cell
KW cell
KW coxi
XX Home
OS Home
XX IT-A
XX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SXSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAY00919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         arthritis and ulcerative colitis; cardiovascular disorders such as myocardial ischaemias; wound healing; neurological diseases such as cerebral anoxia and epilepsy; and infectious diseases.
                                                                                                                                                                                                  Claim
                                                                                                                                                                                                                                             cancer,
                                                                                                                                                                                                                                                             New purified human Rab proteins - used to develop products for treating e.g. AIDS, immunodeficiencies, neurodegenerative diseases,
                                                                                                                                                                                                                                                                                                                                   N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                 Corley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human Rab protein, RABP-2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAY00919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                            (INCY-) INCYTE PHARM INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-AUG-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO9909182-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            toxin-induced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                neurodegenerative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rab protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N
                                                                                                                                                                                                                                                                                                                                                      1999-181042/15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  differentiation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VGNKCDLTTKKVYDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VGNKSDLTTKKVVDNTTAKEFADSLGIPFLETSAKNATNVEQAFMTMAAEIKKRMGPGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LQI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SGG-ERPNLKIDSTPVKPAGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGGAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LQIWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESYANVKQWLQEIDRYASENVNKLL
                                                                                                                                                                                                23; Fig
                                                                                                                                                                                                                                                                                                                                                                                                   NC,
                                                                                                                                                                                                                                             inflammation or
                                                                                                                                                                                                                                                                                                                                   AAX27232.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   standard;
                                                                                                                                                                                                                                                                                                                                                                                                 Hillman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RABP-1; RABP-2;
                                                                                                                                                                                                2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            disease; infection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97us-0916901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98WO-US16983
                                                                                                                                                                                                94pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ion; apoptosis;
disease; myelo;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Protein;
                                                                                                                                                                                                                                                                                                                                                                                                 JL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86.7%;
76.5%;
                                                                                                                                                                                                                                           autoimmune
                                                                                                                                                                                                                                                                                                                                                                                                 Lal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tosis; immunodeficiency; cell prol:
   myelodysplastic syndrome; wasting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RABP-3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                 ۵,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                 Shah
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         genetic defect; diagnosis; therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              768.5;
No. 1.
                                                                                                                                                                                                                                             diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----ESFNNVKQWLQEIDRYASENVNKLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           human; vesicle
                                                                                                                                                                                                                                                                                                                                                                                                 ٦
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           trafficking;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  proliferation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2
```

polypeptides, DNAs and agonists can be used to prevent or treat a disorder associated with an increase in apoptosis, e.g. infectious or genetic immunodeficiencies, neurodegenerative diseases such as Alzheimer's disease, Parkinson's disease, amyotrophic lateral scleros.

RABP-2. The Rab proteins, RABP-1, Riversicle trafficking, cell function,

a human Rab protein of the invention, designated proteins, RABP-1, RABP-2 and RABP-3 are involved ing, cell function, and cell differentiation. The

The

ä RABP

sequence

is

retinitis pigmentosa,

cerebellar

degeneration,

myelodysplastic

sclerosis

```
CC syndromes such as aplastic anaemia, ischaemic injuries such as myocardial CC infarction, stroke, and reperfusion injury, toxin-induced diseases such CC as alcohol-induced liver damage, cirrhosis, and lathyrism, wasting CC diseases such as cachexia, viral infections, and osteoporosis. They can CC also be used to stimulate cell proliferation for use in transplantation CC or to produce cells to fight an infection or a cancer or to correct a CC genetic defect in a disease such as sickle cell beta thalassemia, cystic CC fibrosis or Huntington's chorea. Antagonists can be used to prevent or CC treat a disorder associated with cell proliferation e.g. cancers or CC treat a disorder associated with cell proliferation e.g. cancers or CC syndrome, altergies, asthma, atherosclerosis, bronchitis, cholecystitus, CC diabetes mellitus, emphysema, atropic dermatitis, dermatomyositis, CC diabetes mellitus, emphysema, atrophic gastritis, glomerulonephritis, CC gout, Graves' disease, hypercosinophila, irritable bowel syndrome, lupus cerythematosus, multiple sclerosis, myasthenia gravis, inflammation, CC complications of cancer, haemodialysis, extracorporeal circulation, CC complications of cancer, haemodialysis, extracorporeal circulation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                           Human; secreted protein; arthritis; Crohn's disease; sepsia; shock; ischaemia-reperfusion injury; haematopoiesis; cancer; neuropathy; transgenic animal; Alzheimer's disease; Parkinson's disease; burn; amyotrophic lateral sclerosis; platelet disorder; thrombocytopenia; ulcer; osteoporosis; bone degenerative disorder; periodontal disease; gut protection; lung; liver fibrosis; immune deficiency; infection; severe combined immunodeficiency; SCID; autoimmune disorder; allergy; multiple sclerosis; rheumatoid arthritis; diabetes mellitus; asthma;
07-MAR-2000; 2000US-0519705
19-MAY-2000; 2000US-0574454
                                                              05-MAR-2001; 2001WO-US04942.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Novel human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAU28024 standard; Protein;
                                                                                                                                                                                                                                           fertility; analgesic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity es 156; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAEKSNVKIQSTPVKQSGGGCC 173
| |: |: || |||| :|||||
| G-ERPNLKIDSTPVKPAGGGCC 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEOSFYMAABIKKRMGPGATAG 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESYANVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    201 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and trauma.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        secretory protein, Seq ID No 193.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           86.5%;
                                                                                                                                                                                                                                           pain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 766.5; DB 20;
Pred. No. 2.1e-69;
6; Mismatches 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20; Length 201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2
```

밁 Qy 밁 Qy 밁 QΥ

IWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESYANVKQWLQEIDRYASENVNKLLVG

120 91 60 63

GAEKSNVKIQSTPVKQSGGGCC

61 64

Query Match Best Local Matches

tch 86.5%; al Similarity 77.2%; 156; Conservative

6;

Score 766.5; DB 22, Pred. No. 2.1e-69; 6; Mismatches 7;

22;

Indels Length

33; 201;

Gaps

2;

4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ

Sequence

201 Ą, 밁 γQ В οy Вb Ω В Ş

```
The invention relates to novel isolated human secreted polypeptides (I) cand polynucleotides (II). (I) and (II) are useful for treating the inflammatory conditions such as arthritis, nephritis. Crohn's disease, considered in increasing haematopolesis, stem cell survival, bone growth can remodeling. (I). (II) and modulators of (II) are useful for prophylaxis or treatment of one or more cancers. (II) is also useful for creating transgenic animals useful for studying modulators of the polypeptides. (I) induces the proliferation of neural cells and regeneration of nerve can brain tissue and is useful for the treatment of central and peripheral nervous system disease, and amyotrophic lateral carbivity, regulation of heematopolesis, and is useful for treatment of central and carbivity, regulation of heematopolesis and is useful for treatment of creating myeloid cor lymphoid cell disorders, platelet disorders such as thromboytopenia carbivity, regulation of bone, cartilage, tendon, ligament and/or nerve culcers, for treating osteoporosis, osteoarthritis, bone degenerative culcers, for treating osteoporosis, osteoarthritis, bone degenerative considered infections, autoimment and treatment of lung or liver fibrosis, reperfusion injury in various tissues, various immune deficiencies and considers including severe combined immunodeficiency (SCID), bacterial or reperfusion and conditions, such as asthma or other respiratory problems. (I naddition, (I) affects biorhythms or circadian cycles of rhythms, altergic for treatily and can act as an antigen in a vaccine composition to raise an integer of cartivity and can act as an antigen in a vaccine composition to raise an cimume as a shame or other respirates of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tang
Zhao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Novel polypeptides and nucleic acids obtained from cDNA libraries prepared from various human tissues, for diagnosis and treatment cancer, neurological, inflammatory, and autoimmune disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-JUN-2000; 2000US-0596193
14-JUL-2000; 2000US-0616847
19-SEP-2000; 2000US-0665363
20-OCT-2000; 2000US-0693267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 3; SEQ ID No 193; 107pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (HYSE-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2001-589934/66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Liu C,
Yang Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Asundi V,
Drmanac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RT, Xu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C, We
Zhang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wehrman T,
ng J, Chen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ren
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         λ F,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wang J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ۳,
```

밁

181

G-ERPNLKIDSTPVKPAGGGCC

201

```
Matches
                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                        The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The inventuseful in developmental biology and in elucidating cell signalling cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL101640-ABL10175) and the encoded proteins (ABL101840-ABL16175) and the encoded proteins (ABB57737-ABB72072).
                                                                                                                                                                                                                                                                                                                                                                                                                   New isolated nucleic agenes from Drosophila interactions -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23-MAR-2000;
11-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABB59808
                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                  The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from
                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; SEQ ID NO 6216; 21pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Venter JC, Adams M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (PEKE ) PE CORP NY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23-MAR-2001; 2001WO-US09231.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200171042-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Drosophila melanogaster.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           pharmaceutical.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Drosophila; developmental biology; cell signalling;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Drosophila melanogaster polypeptide SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABB59808;
  181
                         149
                                               121
                                                                     89
                                                                                             61
                                                                                                                  61
                                                                                                                                                                ب
                                                                                                                                                                                                                                                       ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                 MSSMNPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTIGYDFKIRTIELDGKTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2001-656860/75.
DB; ABL03911.
              TAGGAEKSNVKI-QSTPVKQSGGGCC 173
  SATD-NASKVKIDQGRPVENTKSGCC
                                             LVGNKSDLTTKKVVDHTTAAEYAAQLGIPFLETSAKSATNVEQAFMTMAAEIKNRVGPPS 180
                                                         LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA 148
                                                                                                                KLQI-----
                                                                                                                                       MSSVNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI 60
                                                                                          KLQIWDTAGQERFRTITSSYYRGAHGIIVVYDCTDQESFNNVKQWLEEIERYACENVNKL
                                                                                                                                                                                      143;
                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              standard; Protein;
                                                                                                                                                                                                                                    205 AA;
                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-191637P.
2000US-0614150.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entry)
                                                                                                                                                                                                 77.1%;
69.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                 acid
a and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ľ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PWD,
                                                                                                                                                                                                                                                                                                                                                                                                                              detection reagent for detecting for elucidating cell signalling
                                                                                                                                                                                     12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               205
                                                                                                                                                                                   Score 683; DB 2
Pred. No. 6e-61;
2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Myers EW;
                                                                                                       -----ESFNNVKQWLQEIDRYASENVNKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ID NO 6216
                                                                                                                                                                                                           22;
                                                                                                                                                                                     17;
                                                                                                                                                                                                         Length 205;
                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      insecticide;
                                                                                                                                                                                                                                                                                                                                                 The invention signalling and
                                                                                                                                                                                                                                                                                                                                                                                                                               1000
and c
                                                                                                                                                                                    34;
                                                                                                                                                                                                                                                                                                                                                                                                                               0 or more
                                                                                                                                                                                   Gaps
                                                                                          120
                                                                                                                88
                                                                                                                                                                                                                                                                     WIPO
                                                                                                                                                                                                                                                                                                                                                            is
                                                                                                                                                                                    ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 9
AAG07763
  06-MAY 1999
07-MAY 1999
11-MAY 1999
11-MAY 1999
14-MAY 1999
14-MAY 1999
14-MAY 1999
14-MAY 1999
20-MAY 1999
21-MAY 1999
21-MAY 1999
22-MAY 1999
25-MAY 1999
27-MAY 1999
27-MAY 1999
27-MAY 1999
27-MAY 1999
21-JUN 1999
01-JUN 1999
01-JUN 1999
01-JUN 1999
11-JUN 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-FEB-1999

05-MAR-1999

09-MAR-1999

23-MAR-1999

25-MAR-1999

25-MAR-1999

01-APR-1999

06-APR-1999

08-APR-1999
                                                                                                                                                                                                                                                                                                                                     30-APR-1999;
04-MAY-1999;
05-MAY-1999;
06-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                       21-APR-1999;
23-APR-1999;
23-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                   28-APR-1999;
30-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                          19-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      16-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       06-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       termination sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAG07763;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAG07763 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000EP-0301439.
9908-0132407.
9908-0132486.
9908-0132486.
9908-0132486.
9908-0132426.
9908-0134219.
9908-013476.
9908-0134770.
9908-0134741.
9908-0135124.
9908-0135224.
9908-013522.
9908-0136021.
9908-0136021.
9908-0136782.
9908-0136922.
9908-0136922.
9908-0136921.
9908-0136921.
9908-0136921.
9908-0136921.
9908-0136921.
9908-0139422.
9908-0139422.
9908-0139423.
9908-0139423.
                                                                                                                                                                                                                                                                                                               9905-0129845
9905-0130077
9905-0130510
9905-0130510
9905-0131449
9905-0132048
9905-0132408
9905-0132484
9905-0132484
9905-0132485
9905-0132485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                99US-0127462.
99US-0128234.
99US-0128714.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99US-0123548.
99US-0125788.
99US-0126264.
99US-0126785.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-0121825
99US-0123180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NO:
```

Б δÃ 밁 Ωy 밁 QΥ 밁 Qy

ŗ

τ

)<u>.</u>

					_
Qy	Оу Ор	ду Дъ	ט ומיצ	ים טים ים טים טים טים טים טים טים טים טי	3
92 NKCDLTTKK	64 I 61 IWDTAGQER		Query Match Best Local Simila Matches 132; Co	20-AUG-1999 20-AUG-1999 23-AUG-1999 23-AUG-1999 23-AUG-1999 25-AUG-1999 27-AUG-1999 27-AUG-1999 31-AUG-1999 31-AUG-1999 31-SEP-1999 31-SEP-1999 31-SEP-1999 31-SEP-1999 31-SEP-1999 32-SEP-1999 33-SEP-1999 34-AUG-1999 35-CCT-1999 36-CCT-1999 37-CCT-1999 38-CCT-1999 39-CCT-1999	20-1000
NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG 151	IESFNNVKQWLQEIDRYASENVNKLLVG 91	ADDTYTESYISTIGVDFKIRTIELDGKTIKLQ : :	71.9%; Score 637; DB 21; Length 202; larity 65.3%; Pred. No. 2.6e-56; Conservative 11; Mismatches 25; Indels 34; Gaps	9908-0149929 9908-0149930 9908-0151066 9908-0151080 9908-0151080 9908-0151030 9908-0160981 9908-0161360 9908-0161360 9908-0161360 9908-0161360	
			3;		

8-JUN-1999
8-JUN-1999
8-JUN-1999
8-JUN-1999
8-JUN-1999
8-JUN-1999
9-JUN-1999

9905-0139457
9905-0139459
9905-0139461
9905-0139461
9905-0139461
9905-0139461
9905-0140393
9905-0140393
9905-0140893
9905-0140893
9905-0140891
9905-0142893
9905-0142893
9905-0142893
9905-0142893
9905-0142893
9905-0142893
9905-0142893
9905-0142893
9905-0142833
9905-0144833
9905-0144833
9905-0144833
9905-0144833
9905-0144833
9905-0144833
9905-0144833
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918
9905-0145918

.

RESULT AACI 1085 AACI 1085 ACI	о Оу
10 10 10 10 10 10 10 10 10 10	121 NKCDLTSQ) 152 GAEKSNVK. :: : : 180 GSKPPTVQ
### standard; Protein; 202 AA.	NKCDLTSQKVVSTETAKAFADELGIPFLETSAKNATNVEEAFMAMTPAIKTRMA-SQPAG 179 GAEKSNVKIQSTPVKQSGGGCC 173 :: : GSKPPTVQIRGQPVNQQ-SGCC 200
	PR P
18-JUN-1999 18-JUN-1999 18-JUN-1999 18-JUN-1999 18-JUN-1999 18-JUN-1999 18-JUN-1999 18-JUN-1999 23-JUN-1999 24-JUN-1999 25-JUN-1999 26-JUN-1999 27-JUN-1999 28-JUN-1999 29-JUN-1999 29-JUN	000000000000000000000000000000000000000
990S-0139460 990S-0139461 990S-0139461 990S-0139463 990S-0139763 990S-0139817 990S-0140353 990S-0140353 990S-0140823 990S-0140823 990S-0141287 990S-0142390 990S-0142390 990S-0142390 990S-0142390 990S-0142390 990S-0144065 990S-0144065 990S-0144085 990S-0144085 990S-0144085 990S-0144331 990S-0144331 990S-0144331 990S-0145086 990S-0147038 990S-0147038 990S-0147463 990S-0147038 990S-0147038 990S-0147038 990S-0147038 990S-0147038 990S-0147038	0139 0210- 0210- 0210- 0210-

179 151 120

```
y Match 71.4%;
Local Similarity 65.8%;
hes 133; Conservative 1
                        MNPEYDYLFKLLLIGDSGYGKSCLLLRFADDIYTESYISTIGYDFKIRTIELDGKTIKLQ 63
                                                                                                                            9908-0148565
9908-014965
9908-0149723
9908-0149723
9908-0149723
9908-0149930
9908-0150866
9908-0150866
9908-0151066
9908-0151066
9908-0151303
9908-0151303
9908-0151303
9908-0151307
9908-0151468
9908-01513758
9908-01513758
9908-01513758
9908-01513758
9908-01513758
9908-01513758
9908-01513758
9908-01513758
9908-01513758
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
9908-01513759
                                                                            10;
                                                                         Score 633; DB 21;
Pred. No. 6.7e-56;
0; Mismatches 25;
---ESFNNVKQWLQEIDRYASENVNKLLVG 91
                                                                                                   Length
                                                                           Indels 34;
                                                                                                    202;
                                                                           Gaps
                                                                           ü
d
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
25-FEB-1999
05-MAR 1999
05-MAR 1999
25-MAR 1999
25-MAR 1999
25-MAR 1999
06-APR 1999
06-APR 1999
16-APR 1999
21-APR 1999
23-APR 1999
23-APR 1999
23-APR 1999
23-APR 1999
23-APR 1999
24-APR 1999
14-MAY 1999
15-MAY 1999
16-MAY 1999
17-MAY 1999
18-MAY 1999
21-MAY 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Protein identification; signal transduction pathway; metabolic pathway; hybridisation assay; genetic mapping; gene expression control; promoter; termination sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAG30498;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Arabidopsis thaliana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Arabidopsis thaliana protein fragment SEQ ID NO: 36472.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17-OCT-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAG30498 standard; Protein; 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAKPPTVQIRGQPVNQQ-SGCC 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NKNDLTSQKVVSTETAKAFADELGIPFLETSAKNATNVEEAFMAMTAAIKTRMA-SQPAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000EP-0301439
9905-0123548
9905-0123548
9905-0123548
9905-012578
9905-0126785
9905-0126785
9905-0126785
9905-0128714
9905-0130449
9905-0131449
9905-0132487
9905-0132487
9905-0132487
9905-0132487
9905-0132487
9905-0132487
9905-0132487
9905-0132487
9905-0132487
9905-0132487
9905-0132487
9905-0132487
9905-0132487
9905-0132487
9905-0132487
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0134256
9905-0135233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ā
```

13 - NUG - 1999
11 - AUG - 1999
11 - AUG - 1999
12 - AUG - 1999
12 - AUG - 1999
22 - AUG - 1999
23 - AUG - 1999
24 - AUG - 1999
25 - AUG - 1999
27 - AUG - 1999
28 - AUG - 1999
29 - AUG - 1999
20 - AUG - 1999
21 - AUG - 1999
22 - AUG - 1999
23 - AUG - 1999
24 - SEP - 1999
25 - AUG - 1999
26 - CCT - 1999
27 - AUG - 1999
28 - SEP - 1999
29 - SEP - 1999
21 - CCT - 1999
22 - CCT - 1999
23 - CCT - 1999
24 - CCT - 1999
25 - CCT - 1999
26 - CCT - 1999
27 - CCT - 1999
28 - CCT - 1999
29 - CCT - 1999
21 - CCT - 1999
22 - CCT - 1999
23 - CCT - 1999
24 - CCT - 1999
25 - CCT - 1999
26 - CCT - 1999
27 - CCT - 1999
28 - CCT - 1999
29 - CCT - 1999
29 - CCT - 1999
20 - CCT - 1999
21 - CCT - 1999
22 - CCT - 1999
23 - CCT - 1999
24 - CCT - 1999
25 - CCT - 1999
26 - CCT - 1999
27 - CCT - 1999
28 - CCT - 1999
29 - CCT - 1999
29 - CCT - 1999
20 - CCT - 1999
21 - CCT - 1999
22 - CCT - 1999
23 - CCT - 1999
24 - CCT - 1999
25 - CCT - 1999
26 - CCT - 1999
27 - CCT - 1999
28 - CCT - 1999
29 - CCT - 1999
20 - CCT - 1999
21 - CCT - 1999
22 - CCT - 1999
23 - CCT - 1999
24 - CCT - 1999
25 - CCT - 1999
26 - CCT - 1999
27 - CCT - 1999
28 - CCT - 1999
29 - CCT - 1999

1

õ 멍 δÃ

64 ш 4

I-----

Query Ma Best Loo Matches

```
ממרסים סיקים לי סיקים לים לי סיקים לי סיקים לי סיקים לי סיקים לי סיקים לי סיקים לי ס
                                              09-AUG-1999
10-AUG-1999
11-AUG-1999
11-AUG-1999
11-AUG-1999
11-AUG-1999
11-AUG-1999
11-AUG-1999
11-AUG-1999
11-AUG-1999
11-AUG-1999
12-AUG-1999
12-AUG-1999
12-AUG-1999
12-AUG-1999
12-AUG-1999
13-AUG-1999
13-AUG-1999
11-AUG-1999
11-AUG
                                              990S-0147493
990S-014819
990S-0148319
990S-014884
990S-014884
990S-0149175
990S-0149175
990S-0149175
990S-014923
990S-0150856
990S-0150856
990S-0151086
990S-0151086
990S-0151086
990S-0151086
990S-0151086
990S-0151080
990S-0151080
990S-0151080
990S-0151081
990S-0151080
990S-016081
990S-016081
990S-016081
990S-016081
990S-016081
990S-016081
990S-0161060
990S-0161105
990S-0161105
990S-0161105
990S-0161105
990S-0161105
990S-0161105
990S-01611060
990S-0161105
     DВ
  21;
Length
     258;
```

08-JUN-1999
110-JUN-1999
110-JU

990S-0138094
990S-0139119
990S-0139129
990S-0139453
990S-0139458
990S-0139458
990S-0139459
990S-0139459
990S-0139461
990S-0139461
990S-0139462
990S-0140593
990S-0140593
990S-0140593
990S-0140593
990S-0140823
990S-0140833
990S-0140833
990S-0140833
990S-014083
990S-014083
990S-014083
990S-014083
990S-014083
990S-014083
990S-01408
990S-014703
990S-0147103
990S-0147103

Query Match
Best Local Similarity
Matches 125; Conserv Conservative 69.9%; 15; Score 619.5; Pred. No. 2.1e .5; Mismatches 1e-54 30; 33; Gaps

2;

SAMPSPOTATELLICATION CONTINUES CONTINUES SAMPSPOTATELLICATION SAMPSPOTATE STANSPOTATE SAMPSPOTATE SAMP	R R C C C C C C C C C C C C C C C C C C	0 QY QY QY QY QY QY QY QY QY
O'OKSCLLLARSOND'NTESTISTICNOFNIRTIELDCKTIKL 62 O'OKSCLLLARSOND'NTESTISTICNOFNIRTIELDCKTIKL 14 PR	RESULT 12 AAG30499 ID AAG30499 XX AC AAG30499; XC AAG30499; XC AAG30499; XX C AAG30499; XX XX Protein ident XX XX XX EP1033405-A2. XX Z5-FEB-1999; PN 25-FEB-1999; PR 25-MAR-1999; PR 25-MAR-1999; PR 27-MAR-1999; PR 27-MAR-1999; PR 27-MAR-1999; PR 27-MAR-1999; PR 27-MAY-1999; PR 11-MAY-1999;	
28 MAY 1999 01 JUN 1999 01 JUN 1999 07 JUN 1999 08 JUN 1999 16 JUN 1999 16 JUN 1999 17 JUN 1999 18 JUN	dard; Protein; 203 AA. (first entry) haliana protein fragment SEQ ID NO: 36473. haliana protein fragment SEQ ID NO: 36473. haliana protein fragment SEQ ID NO: 36473. haliana. haliana. 2000EP-0301439. 90US-0123180. 90US-0123180. 90US-0123180. 90US-0123180. 90US-0123180. 90US-0128714. 90US-012	LFKLLLIGDSGYGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKL 62
28 MAY 1999 01 JUN 1999 01 JUN 1999 07 JUN 1999 08 JUN 1999 16 JUN 1999 16 JUN 1999 17 JUN 1999 18 JUN		
	ק ה הי ה	הק הק הק הק הק הק הק הק הק הק הק הק הק ה
9908-0136782 9908-0137522 9908-0137523 9908-0137523 9908-0139752 9908-0139453 9908-0139453 9908-0139453 9908-0139453 9908-0139453 9908-0139453 9908-0139453 9908-0139463 9908-0139463 9908-0139463 9908-0139463 9908-0139463 9908-0139463 9908-0139463 9908-0140354 9908-0140354 9908-0140853 9908-0140853 9908-0140853 9908-014483 9908-014483 9908-014433 9908-014433 9908-014433 9908-014433 9908-014433 9908-014433 9908-014433 9908-014433 9908-014433 9908-014433 9908-014433 9908-014433 9908-014433 9908-014433 9908-0145214 9908-0145214 9908-0145214 9908-0145214 9908-0145214 9908-0145214 9908-0145213	18-JUN-1999 118-JUN-1999 118-JUN-1999 118-JUN-1999 118-JUN-1999 118-JUN-1999 118-JUN-1999 118-JUN-1999 118-JUN-1999 122-JUN-1999 123-JUN-1999 129-JUN-1999 129-JU	28-MAY-1999 01-JUN-1999 03-JUN-1999 04-JUN-1999 07-JUN-1999 08-JUN-1999 10-JUN-1999 110-JUN-1999 116-JUN-1999 116-JUN-1999 116-JUN-1999 116-JUN-1999 117-JUN-1999 118-JUN-1999 118-JUN-1999 118-JUN-1999 118-JUN-1999
	990S-0139458 990S-0139458 990S-0139461 990S-0139462 990S-0139463 990S-0139763 990S-0139763 990S-0140353 990S-0140353 990S-0140695 990S-0141842 990S-0144884	99US-0136782 99US-0137528 99US-0137528 99US-0137524 99US-0138094 99US-0138647 99US-0138457 99US-0139452 99US-0139453 99US-0139454 99US-0139456 99US-0139456 99US-0139456

```
RESULT 13
AAG30710
ID AAG30710
XX AAG30710
XX AAG30
XX ACA
AC AAG30
XX ACA
CX A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 69.8
Best Local Similarity 61.9
Matches 125; Conservative
25-FEB-1999
05-MAR-1999
09-MAR-1999
23-MAR-1999
25-MAR-1999
25-MAR-1999
06-APR-1999
16-APR-1999
16-APR-1999
17-APR-1999
23-APR-1999
23-APR-1999
23-APR-1999
23-APR-1999
23-APR-1999
23-APR-1999
23-APR-1999
24-MAY-1999
06-MAY-1999
07-MAY-1999
11-MAY-1999
11-MAY-1999
11-MAY-1999
11-MAY-1999
11-MAY-1999
11-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Protein identification; signal transduction pathway; metabolic hybridisation assay; genetic mapping; gene expression control; termination sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Arabidopsis thaliana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                17-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAG30710;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAG30710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181 NARPPTVQIRGQPVAQK-NGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IWDTAGQERFRTITSSYYRGAHGIIIVYDVTDEESFNNVKQWLSEIDRYASDNVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000EP-0301439
990S-0123180

990S-0123548

990S-0125788

990S-0126785

990S-0127462

990S-0128714

990S-0128714

990S-0130677

990S-0130649

990S-0130449

990S-013149

990S-0132484

990S-0132484

990S-0132487

990S-0132486

990S-0134219

990S-0134219

990S-0134219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     69.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; Score 618.5; DB; Pred. No. 2e-54; 14; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ą
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   promoter;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        pathway;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   63
```

א מיסים מי

04-NUG-1999
05-NUG-1999
05-NUG-1999
06-NUG-1999
06-NUG-1999
09-NUG-1999
11-NUG-1999
11-NUG

9905-0147302
9905-0147792
9905-0147793
9905-0147793
9905-0148719
9905-0148819
9905-014884819
9905-014892
9905-014892
9905-014992
9905-014992
9905-014992
9905-014992
9905-014992
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-0150666
9905-01506966
9905-01506986
9905-0160986
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064
9905-01614064

, , , , , , , , , , , , , , , , , , ,		קק קק קקק קקקק קקקקקקקקקקקקקקקקקקקקקק
001-1 -00	ANG-19 - SEP 19 - SEP	02-AUG-1999 02-AUG-1999 02-AUG-1999 04-AUG-1999 04-AUG-1999 05-AUG-1999 05-AUG-1999 06-AUG-1999 06-AUG-1999 10-AUG-1999 11-AUG-1999 11-AUG-1999 12-AUG-1999 13-AUG-1999 13-AUG-1999 14-AUG-1999 15-AUG-1999 16-AUG-1999 17-AUG-1999 18-AUG-1999 19-AUG-1999 19-AUG-1999 19-AUG-1999 20-AUG-1999 21-AUG-1999
908-0159 908-0159 908-0159 908-0159 908-0160 908-0160 908-0160 908-0160 908-0160 908-0160 908-0160 908-0160 908-0161	95-01513 95-01513 95-01513 95-01513 95-01513 95-01513 95-01513 95-01513 95-0152	99US-0146386 99US-0146388 99US-014738 99US-0147204 99US-0147260 99US-0147260 99US-0147416 99US-0147416 99US-0147416 99US-0147416 99US-0147416 99US-0148311 99US-0148311 99US-0148311 99US-0148311 99US-014834 99US-014834 99US-014836 99US-014936 99US-014936 99US-014936 99US-0149902 99US-0149902 99US-0149902 99US-0149902 99US-0149902 99US-0149902 99US-0149902 99US-0149902 99US-0149902 99US-0149902 99US-0149902 99US-0149902 99US-0149902 99US-0149902 99US-0149902

20-MAY 1999
21-MAY 1999
21-MAY 1999
22-MAY 1999
22-MAY 1999
23-MAY 1999
20-JUN 1999
20-JUN 1999
20-JUN 1999
21-JUN 1999
22-JUN 1999
23-JUN 1999
24-JUN 1999
24-JUN

99US-0135124 99US-013533 99US-013629 99US-013629 99US-0137528 99US-0137528 99US-0137528 99US-0139454 99US-0139452 99US-0139454 99US-0139454 99US-0139454 99US-0139454 99US-0139454 99US-0139454 99US-0139454 99US-0139457 99US-0139457 99US-0139457 99US-0139461 99US-0139461 99US-0139461 99US-0139461 99US-0139461 99US-0139461 99US-0139461 99US-0139463 99US-014065 99US-014065 99US-0140683 99US-0140863 99US-0144864 99US-0144864 99US-0144335 99US-0144335 99US-0144335 99US-0144335 99US-0144335 99US-0144358 99US-0144358 99US-0144358 99US-0145086 99US-0145086 99US-0145086 99US-0145086 99US-0145086 99US-0145086 99US-0145086 99US-0145086 99US-0145186 99US-0145186

i÷

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                65
85
85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PR PR PR PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Ma
Best Loc
Matches
25-FEB-1999

05-MAR-1999

09-MAR-1999

23-MAR-1999

23-MAR-1999

01-APR-1999

01-APR-1999

06-APR-1999

16-APR-1999

16-APR-1999

17-APR-1999

23-APR-1999

24-APR-1999

25-AMY-1999

30-AMY-1999

06-MAY-1999

06-MAY-1999

01-MAY-1999

01-MAY-1999

01-MAY-1999

01-MAY-1999

01-MAY-1999

01-MAY-1999

01-MAY-1999

01-MAY-1999

01-MAY-1999
                                                                                                                                                                                                                                                                                                           Protein identification; signal transduction hybridisation assay; genetic mapping; gene etermination sequence.
                                                                                                                                                                                                                                    25-FEB-2000;
                                                                                                                                                                                                                                                      06-SEP-2000.
                                                                                                                                                                                                                                                                        EP1033405-A2
                                                                                                                                                                                                                                                                                         Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                Arabidopsis
                                                                                                                                                                                                                                                                                                                                                                 17-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                    AAG30709;
                                                                                                                                                                                                                                                                                                                                                                                                      AAG30709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        228822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Match 69.1%;
Local Similarity 65.0%;
nes 128; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3-OCT-1999;
3-OCT-1999;
3-OCT-1999;
3-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TVQIRGQPVNQQ-SGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GQERFRTITSSYYRGAHGIIVTYDVTDLESFNNVKQWLQEIDRYASENVNKLLVGNKCDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                             NVKIQSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                      standard;
                                                                                                                                                                                                                                                                                                                                               thaliana
                                                                                                                                                                                                                                    2000EP-0301439
                                                                                                                                                                                                                                                                                                                                                                 (first
9908-0121825
9908-012548
9908-0125788
9908-0125789
9908-0126785
9908-0126785
9908-0128234
9908-0128234
9908-0128234
9908-0130077
9908-0130691
9908-013049
9908-013048
9908-0132486
9908-0132485
9908-0132486
9908-0132487
9908-0132487
9908-0132487
9908-0132487
9908-0132487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-0161361.
99US-0161920.
99US-0161992.
99US-0161993.
99US-0162142.
                                                                                                                                                                                                                                                                                                                                                                                                      Protein;
                                                                                                                                                                                                                                                                                                                                                                 entry)
                                                                                                                                                                                                                                                                                                                                               protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                    216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; Score 612; DB 21;
; Pred. No. 9.8e-54;
11; Mismatches 24;
                                                                                                                                                                                                                                                                                                                                                                                                      221
                                                                                                                                                                                                                                                                                                                                               fragment
                                                                                                                                                                                                                                                                                                                                                                                                      A
                                                                                                                                                                                                                                                                                                                                               SEQ
                                                                                                                                                                                                                                                                                                                                               IJ
                                                                                                                                                                                                                                                                                                                     expression
                                                                                                                                                                                                                                                                                                                    pathway; metabolic
expression control;
                                                                                                                                                                                                                                                                                                                                               ŏ:
                                                                                                                                                                                                                                                                                                                                               36763.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      218;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    34;
                                                                                                                                                                                                                                                                                                                    pathway;
promoter;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ω
 114-MAY 1999
114-MAY 1999
114-MAY 1999
119-MAY 1999
221-MAY 1999
231-MAY 1999
231-M
S-0134721

S-0134768

S-0134768

S-0135523

S-0135629

S-0137528

S-0137528

S-0137528

S-0137528

S-0139452

S-0139452

S-0139453

S-0139453

S-0139453

S-0139453

S-0139453

S-0139453

S-0139453

S-0139453

S-0139453

S-0144086

S-0145089

S-0145089

S-0145089
```

*

```
RESULT 15

AAG45333

ID 45332

XX AAG45

XX AFAbi

XX Prote

XXW Prote

XXW Prote

XXW Prote

XXW Prote

XXW Cermi

XXW Cermi

XXW CEP103

PN EP103

PN EP103

PN 25-FE

XXX 25-FE

XXX 25-FE

XXX 25-FE

XX 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PR
PR
PR
PR
PR
PR
PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 69.1%; Score 612; DB 2: Best Local Similarity 65.0%; Pred. No. 1e-53; Matches 128; Conservative 11; Mismatches
25-FEB-1999

05-MAR-1999

09-MAR-1999

23-MAR-1999

25-MAR-1999

25-MAR-1999

01-APR-1999

06-APR-1999

08-APR-1999

16-APR-1999

21-APR-1999

21-APR-1999

23-APR-1999

23-APR-1999

23-APR-1999

24-APR-1999

25-APR-1999

26-APR-1999

27-APR-1999

28-APR-1999

28-APR-1999

28-APR-1999

29-APR-1999

30-APR-1999

30-APR-1999

30-APR-1999

30-APR-1999

30-APR-1999

30-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25-OCT-1999
25-OCT-1999
25-OCT-1999
26-OCT-1999
26-OCT-1999
26-OCT-1999
28-OCT-1999
28-OCT-1999
28-OCT-1999
29-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Protein identification; signal transduction pathway; metabolic hybridisation assay; genetic mapping; gene expression control; termination sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                            25-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                   06-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Arabidopsis thaliana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Arabidopsis thaliana protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAG45323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TVQIRGQPVNQQ-SGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GQERFRTITSSYYRGAHGIIVTYDVTDLESFNNVKQWLNEIDRYASENVNKLLVGNKCDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                            2000EP-0301439
990S-0121825

990S-012548

990S-0125788

990S-0126664

990S-0126785

990S-0127462

990S-0128714

990S-0128714

990S-013071

990S-0130071

990S-0130510

990S-0130449

990S-0130449

990S-0130449

990S-0130449

990S-01304485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-0161404

99US-0161406

99US-0161359

99US-0161360

99US-0161361

99US-0161361

99US-0161920

99US-0161993

99US-0162142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 221;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              56887.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     pathway;
promoter;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ω
```

26-JUL-1999
27-JUL-1999
27-JUL-1999
27-JUL-1999
28-JUL-1999
02-AUG-1999
02-AUG-1999
03-AUG-1999
04-AUG-1999
04-AUG-1999
06-AUG-1999
06-AUG-1999
11-AUG-1999
11-AUG

9905-0145276
9905-0145213
9905-0145913
9905-0145913
9905-0146386
9905-0146388
9905-0147703
9905-0147703
9905-0147703
9905-0147703
9905-0147703
9905-0147719
9905-0147719
9905-0147719
9905-0147719
9905-0147719
9905-0147719
9905-0147719
9905-0147719
9905-0147719
9905-0147719
9905-0147719
9905-0147719
9905-0147719
9905-0147719
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080
9905-0151080

טים סים סים סים סים סים סים סים סים סים ס	קק אק אק אק אק
14-MAY 1999 18-MAY 1999 18-MAY 1999 19-MAY 1999 20-MAY 1999 21-MAY 1999 21-MAY 1999 22-MAY 1999 23-MAY 1999 24-MAY 1999 27-MAY 1999 28-MAY 1999 29-MAY 1999 29-MAY 1999 21-MAY	06-MAY-1999; 06-MAY-1999; 07-MAY-1999; 11-MAY-1999; 14-MAY-1999;
99US-0134221 99US-0134370 99US-0134370 99US-0134768 99US-0135124 99US-0135629 99US-0136629 99US-0136392 99US-0137522 99US-0137522 99US-0139452 99US-0139453 99US-0139453 99US-0139453 99US-0139453 99US-0139456 99US-0139456 99US-0139456 99US-0139456 99US-0139457 99US-0139458 99US-0139461 99US-0139461 99US-0140865 99US-0141287 99US-014287 99US-0144384 99US-0144384 99US-0144383 99US-0144384 99US-0144884 99US-0144884 99US-0144884 99US-0144884 99US-0144884 99US-0144884 99US-0144884	9000
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	9 2 2 2 3 4 4 7 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7
27-JUL-1999 27-JUL-1999 28-JUL-1999 28-JUL-1999 28-JUL-1999 29-AUG-1999 20-AUG-1999 30-AUG-1999 30-AUG-1999 31-AUG-1999 31-AUG	2-JUL-199 2-JUL-199 3-JUL-199 3-JUL-199 3-JUL-199 6-JUL-199
9908 - 0145913 9908 - 0145913 9908 - 0145911 9908 - 0145911 9908 - 0146388 9908 - 0147388 9908 - 0147302 9908 - 0147302 9908 - 0147303 9908 - 0147493 9908 - 0147493 9908 - 0148341 9908 - 0149368 9908 - 0149368 9908 - 0149368 9908 - 0149368 9908 - 0149368 9908 - 0149368 9908 - 0149368 9908 - 0150884 9908 - 0151086 9908 - 0151086 9908 - 0151086 9908 - 0151086 9908 - 0151088 9908 - 0151088 9908 - 0151088 9908 - 0151088 9908 - 0151088 9908 - 0151088 9908 - 0151088 9908 - 0151088 9908 - 0151088 9908 - 0159333 9908 - 0159333 9908 - 0159638 9908 - 0159638 9908 - 0159638 9908 - 0159638 9908 - 0159638 9908 - 0159638 9908 - 0159638 9908 - 0159638 9908 - 0159638 9908 - 0159638 9908 - 0159638 9908 - 0159638	9US-014508 9US-014519 9US-014514 9US-014521 9US-014521 9US-014522

```
PR 21-OCT-1999; 99US-0160816.
PR 22-OCT-1999; 99US-0160815.
PR 22-OCT-1999; 99US-0160816.
PR 22-OCT-1999; 99US-0160981.
PR 22-OCT-1999; 99US-0161406.
PR 25-OCT-1999; 99US-0161406.
PR 25-OCT-1999; 99US-0161359.
PR 26-OCT-1999; 99US-0161361.
PR 26-OCT-1999; 99US-0161361.
PR 26-OCT-1999; 99US-0161361.
PR 26-OCT-1999; 99US-0161361.
PR 28-OCT-1999; 99US-0161361.
PR 28-OCT-1999; 99US-0161312.
PR 28-OCT-1999; 99US-0161312.
PR 28-OCT-1999; 99US-0161312.
PR 28-OCT-1999; 99US-0161921.
PR 28-OCT-1999; 99US-0161921.
PR 28-OCT-1999; 99US-016191.
PR 28-OCT-1999; 99US-016191.
PR 28-OCT-1999; 99US-016191.
PR 28-OCT-1999; 99US-016191.
PR 28-OCT-1999; 99US-0161993.
PR 29-OCT-1999; 99US-016191.
PR 28-OCT-1999; 99US-0161993.
PR 29-OCT-1999; 99US-016191.
PR 28-OCT-1999; 99US-016192.
PR 28-OCT-1999; 99US-016192.
PR 28-OCT-1999; 99US-016192.
PR 28-OCT-1999; 99US-0161993.
PR 28-OCT-1999; 99US-016192.
PR 26-OCT-1999; 99US-016192.
PR 26-OCT-1999; 99US-0161361.
PR 26-OCT-1999; 99US-016
```

Ã.

				,	
v					
•					w .
A sec					
		•			
		· ·			
•		e e e e e e e e e e e e e e e e e e e			
			<i>t</i>		
					я
			5 20 0		
				e e	
. ,					
•			•		
				*	· •
ri .			;		
			3		
•	4				
6					
	<b>₹</b> ₹				
	* * *				
	en e				
			get g		
		•			
				· · · · · · · · · · · · · · · · · · ·	in the second se
٠.					
· · · · · · · · · · · · · · · · · · ·					en e
e e e e e e e e e e e e e e e e e e e			3 2 - 2		
			e in the		4.
Park to the second seco					7 · · · · · · · · · · · · · · · · · · ·
		aging the second of the second	on the second of		e de la companya della companya della companya de la companya della companya dell

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Total number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       on:
          10
11
12
13
13
14
16
18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
        860
760.5
760.5
414
413
403.5
390.5
390.5
362.5
362.5
362.5
362.5
313.3
323.3
323.3
321.3
321.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ı
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Published_Applications_AA:*

1: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*

2: /cgn2_6/ptodata/2/pubpaa/ECT_NEW_PUB.pep:*

3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*

4: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*

5: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*

6: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*

7: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*

8: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*

9: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*

10: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*

11: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*

13: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*

13: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*

14: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*

13: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*

14: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein search, using
        100
97
86
86
46
44
41
41
35
35
35
35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-820-003A-2
886
1 MSSMNPEYDYLFKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           November 17, 2002, 13:04:12; Search time 20 Seconds (without alignments) 130.277 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97044 segs, 15060890 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MSSMNPEYDYLFKLLLIGDS.....EKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GenCore version 5.1.3
Copyright (c) 1993 - 2002 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 Length
        173
222
201
201
201
2190
2186
246
246
248
198
198
198
198
198
198
212
212
212
212
212
212
212
213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
        US-09-820-003A-2
US-09-820-003A-4
US-09-967-736-3
US-09-967-736-8
US-09-967-736-8
US-09-925-300-1571
US-09-925-300-1571
US-09-925-302-54
US-09-945-173-5
US-09-945-173-5
US-09-945-173-5
US-09-945-173-5
US-09-947-198A-4
US-09-817-198A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97044
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Description
     sequence
  2, Appli
3, Appli
8, Appli
8, Appli
8, Appli
9, Appli
15, Appli
16, Appli
16, Appli
16, Appli
16, Appli
16, Appli
16, Appli
17, Appli
18, Appli
19, Appli
19
                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                                                       νQ
                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                Ωy
```

45	44	43	42	41	40	39	38	37	36	ω 5	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	
200	205	206	206	206	210.5	211	212	212	212	214.5	216.5	219.5	219.5	219.5	235	235.5	237.5	254	254	255	258	267	292	292.5	50	
22.6	23.1										24.4				•						•				33.0	
208	168	209	201	201	201	144	625	624	190	189	189	189	183	183	217	832	208	213	213	217	239	216	59	312	191	
10	10	10	10	10	10	10	10	10	10	9	12	12	10	10	10	10	9	10	10	10	10	10	10	10	12	
US-09-925-302-629	US-09-834-765-765	-864-761	-974-	US-09-988-974-5		US-09-972-529-7	US-09-834-765-762	US-09-834-765-5	US-09-850-373-4	US-10-067-813-16	-10-104-484	US-10-104-484-4	US-09-765-298A-28	US-09-765-298A-26	US-09-925-300-1364	US-09-834-765-2	US-10-108-605-45	US-09-988-974-8	-09-794-257-	US-09-988-974-3	US-09-925-301-1077	US-09-945-173-10	US-09-864-761-35038	-925-302	US-10-051-986-3	
Sequence 629, App	765,	Sequence 42996, A	Sequence 9, Appli	5	2	Sequence 7, Appli	76	5	е4,	Sequence 16, Appl	2,	4	Sequence 28, Appl	Sequence 26, Appl	13	Sequence 2, Appli	Sequence 45, Appl		ū	Sequence 3, Appli		Sequence 10, Appl	35038	783	Sequence 3, Appli	

## ALIGNMENTS

```
RESULT 1
US-09-820-003A-2
Sequence 2. Application US/09820003A
Sequence 2. Application US/09820003A
Reference 3. Application US/09820003A
Reference 3. Application US/09820003A
Reference 3. Application USCATED HUMAN RAS-LIKE PROTEINS,
Reference 3. Refer
```

```
; APPLICANT: MERKULOV, Gennady et al.
: TITLE OF INVENTION: ISOLATED HUMAN RAS-LIKE PROTEI
: TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODI
: TITLE OF INVENTION: PROTEINS, AND USES THEREOF
: FILE REFERENCE: CL001196
: CURRENT APPLICATION NUMBER: US/09/820,003A
: CURRENT FILING DATE: 2001-03-29
: NUMBER OF SEQ ID NOS: 39
: SOFTWARE: FastSEQ for Windows Version 4.0
: SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              рЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 3
US-09-967-736-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-820-003A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 3, Application US/09967736 Patent No. US20020103340A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM: Homo sapien
INFORMATION FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      149 TAGGAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 198 TAGGAEKSNVKIQSTPVKQSGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 89 LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             78 KLQIWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLQEIDRYASENVNKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18 MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MSSMNPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTIGYDFKIRTIELDGKTI
                                NAME: Billings, Lucy J.
REGISTRATION NUMBER: 36,749
REFERENCE/DOCKET NUMBER: PF-0367 US
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-855-0555
                                                                                                                                                                                                                   SOFTWARE: FastSEQ for Windows Vers
CURRENT APPLICATION NUMBER: US/09/967,736
APPLICATION NUMBER: US/09/967,736
                                                                                                                                                                                  FILING DATE: 28-Sep-2001 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
ADDRESSEE: Incyte Pharmaceuticals, Inc.
STREET: 3174 Porter Dr.
                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: RAB PROTEINS NUMBER OF SEQUENCES: 9
                                                                                                                              ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Hillman, Jennifer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      222
                                                                                                                                                                                                                                                                         COMPUTER: IBM Compatible OPERATING SYSTEM: DOS
                                                                                                                                               APPLICATION NUMBER: 09/154,602 FILING DATE: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                      STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                       CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                 ZIP: 94304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
 SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Corley, Neil C.
                                                                                                                                                                                                                                                                                                                                                                  USA
                    415-845-4166
 IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Preet:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           97.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Purvi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HUMAN RAS-LIKE PROTEINS, ACID MOLECULES ENCODING
                                                                                                                                                                                                                                                      DOS
for Windows Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 860; DB 10;
Pred. No. 1.2e-77;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ŀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 222;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  THESE HUMAN RAS-LIKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-967-736-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-967-736-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 8, Application US/09967736 Patent No. US20020103340A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                       INFORMATION FOR SEQ ID NO: 8
                                                                                                                                                          APPLICATION NUMBER: US/09/967,736
FILING DATE: 28-Sep-2001
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/154,602
FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Billings, Lucy J.
REGISTRATION NUMBER: 36,749
REGISTRATION NUMBER: 36,749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
es 156; Conserv
                                                                                                                                                                                                                                                                                                           COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FBSATSEQ for Windows Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
                                                    SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: RAB PROTEINS NUMBER OF SEQUENCES: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
                                                                                                           TELECOMMUNICATION INFORMATION: TELEPHONE: 415-855-0555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Hillman, Jennifer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IMMEDIATE SOURCE:
                  TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: Incyte Pharmaceuticals, STREET: 3174 Porter Dr.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLONE: 2514506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: amino acid
STRANDEDNESS: si
STRANDEDNESS: single
                                                                                                                                             REFERENCE/DOCKET NUMBER: PF-0367 US
                                                                                                                                                                                                                                                                                                                                                                                                                          ZIP: 94304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                 ENGTH:
                                                                                        TELEFAX: 415-845-4166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IBRARY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Corley, Neil C.
Shah, Purvi
                                                                                                                                                                                                                                                                                                                                                                                                                                         USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LIVRTUT04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Preet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               86.5%;
                                 amino acids
```

ŗ

2

```
152 GAEKSNVKIQSTPVKQSGGGCC 173
181 G-ERPNLKIDSTPVKPAGGGCC 201
                                                                                 121 NKSDLTTKKVVDNTTAKEFADSLGIPFLETSAKNATNVEQAFMTMAAEIKKRMGPGAASG 180
                                                                                                                                                              61 IWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESYANVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                             1 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                     4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                  NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG
                                                                                                                                                                                                    I-----ESFNNYKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           201 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    single
                                                                                                                                                                                                                                                                                                                              6,
                                                                                                                                                                                                                                                                                                                            Score 766.5; DB 10;
Pred. No. 1.8e-68;
6; Mismatches 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                  ω
                                                                                                                                                                                                                                                                                                                                                                  DB 10;
                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                      201;
                                                                                                                                                                                                                                                                                                                              33;
                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                              120
                                                                                                                                                                                                      91
                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                     63
```

```
Sequence 8, Application US/09794257
Patent No. US20020009804A1
GENERAL INFORMATION:
APPLICANT: Meyers, Rachel
TITLE OF INVENTION: 32705, 23224, 27423, 32700, 32712, No. US20020009804A1el
TITLE OF INVENTION: 32705, 23224, 27423, 32700, 32712, No. US20020009804A1el
TITLE OF INVENTION: 32705, 23224, 27423, 32700, 32712, No. US20020009804A1el
TITLE OF INVENTION: Human G-Proteins
FILE REFERENCE: 35800/209285
CURRENT APPLICATION NUMBER: US/09/794,257
CURRENT FILING DATE: 2001-02-27
PRIOR APPLICATION NUMBER: 60/185,606
PRIOR FILING DATE: 2000-02-29
NUMBER OF SEQ ID NOS: 16
SEQ ID NO 8
LENGTH: 207
TYPE: PRT
ORGANISM: homo sapiens
RESULT 6
US-09-822-860-5
· Sequence 5, Application US/09822860
                                                                                                                                                    δÃ
                                                                                                                                                                                         밁
                                                                                                                                                                                                                         οy
                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                              οy
                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 5
US-09-794-257-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             맖
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-967-736-8
                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 46.7%; Score 414; DB 10; Length 207; Best Local Similarity 44.2%; pred No. 9.7e-34; Matches 84; Conservative 31; Mismatches 37; Indels 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 85.8%;
Best Local Similarity 76.2%;
Matches 154; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181 NSAGAGGPVK 190
                                                                                                                                                          146 PGATAGGAEK 155
                                                                                                                                                                                            121 NKCDMNDKROVSKERGEKLAIDYGIKFLETSAKSSANVEEAFFTLARDIMTKLNRKMNDS 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181 G-ERPNLKIDSTPVKSASGGCC 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               152 GAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                           92 NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRM-----G 145
                                                                                                                                                                                                                                                                                                    64
                                                                                                                                                                                                                                                            61 IWDTAGQERFRTITTAYYRGAMGIMLVYDITNEKSFDNIKNWIRNIEEHASSDVERMILG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 IWDTAGQERFRTYTSSYYRGAHGIIVVYDVTDQESYANVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         64
                                                                                                                                                                                                                                                                                                                               4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLONE: 57006
SEQUENCE DESCRIPTION: SEQ ID NO: 8:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY: linear IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     I-----ESFNNVKQWLQEIDRYASENVNKLLVG 91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LIBRARY: GenBank
CLONE: 57006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 760.5; DB 10;
Pred. No. 6.9e-68;
7; Mismatches 8;
                                                                                                                                                                                                                                                                                                -----ESFNNVKQWLQEIDRYASENVNKLLVG 91
                                                                                                                                                                                                                                                                                                                                                                                                          Indels 38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels 33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   201;
                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2;
                                                                                                                                                                                                                                                                                                                                                                                                          2
```

i el-

```
VS-09-25-300-1571

VS-09-25-300-1571

Sequence 1571, Application US/09925300

Patent No. US20020151681A1

GENERAL IMPORMATION:

APPLICANT: Craig Rosen,
APPLICANT: Craig Rosen,
APPLICANT: Steve Ruben

ITILE OF INVENTION: Nucleic Acids, Proteins and Antibodies

FILE REFERENCE: PA10:
CURRENT APPLICATION NUMBER: US/09/925,300

CURRENT PILING DATE: 2001-08-10

PRIOR APPLICATION NUMBER: PCT/US00/05988

PRIOR APPLICATION NUMBER: PCT/US00/05988

PRIOR FILING DATE: 2000-03-08

PRIOR APPLICATION NUMBER: 50/124,270

PRIOR FILING DATE: 1999-03-12

NUMBER OF SEQ ID NOS: 1890

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 1571

LENGTH: 218

TYPE: PRT
  В
                                      δÃ
                                                                                   В
                                                                                                                          ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ρ
                                                                                                                                                                                                                                                                 ; ORGANISM: Homo sapiens US-09-925-300-1571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; LENGTH: 190
TYPE: PRT
; ORGANISM: D1scopyge ommata
US-09-822-860-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: ZHU, Shiaoping et al.

TITLE OF INVENTION: INCLEIC ACID MOLECULES ENCODING THESE HUMAN RAS-LIKE PROTEINS,

TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING THESE HUMAN RAS-LIKE TITLE OF INVENTION: PROTEINS, AND USES THEREOF

FILE REFERENCE: CL001214

CURRENT APPLICATION NUMBER: US/09/822,860

CURRENT FILING DATE: 2001-04-02

NUMBER OF SEQ ID NOS: 5

SOFTMARE: FastSEQ for Windows Version 4.0

SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ouery Match 46.6%; Score 413; DB 19; Best Local Similarity 42.1%; Pred. No. 1.1e-33; Matches 80; Conservative 38; Mismatches 40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patent No. US20020146795A1
GENERAL INFORMATION:
                                                                                                                                                                              Matches
                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181 VDKLKSPPKK 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 NEKRQVSKERGEKLAIDYGIKFLETSAKSSINVEEAFITLARDIMTKLNKKMNENSLQEA 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               157 NVKIQSTPVK
                                                                                   24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97
84 AGQERFHTITTSYYRGAMGIMLVYDITNGKSFENISKWLRNIDEHANEDVERMLLGNKCD
                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           65 -----
                                                                                     9 DYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQI----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 DYLFKLLLIGDSGYGKTCLLFRFSEDAFNTTFISTIGIDFKIRTVELDGKKIKLQIWDTA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAGGAEKS 156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GQERFRTITTAYYRGAMGIMKVYDITNEKSFDNIKNWIRNIEEHASSDVERMILGNKCDM 120
                                                                                                                                                                           1 Similarity 39.7
85; Conservative
                                                                                                                                                                        45.5%; Score 403.5; DB 10; Length 218; 39.7%; Pred. No. 1.1e-32; tive 32; Mismatches 30; Indels 67;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----ESFNNVKQWLQEIDRYASENVNKLLVGNKCDL 96
                       -----ESFNNVKQWLQEIDRYASENVNKLLVGNKCD 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 190;
                                                                                                                                                                        Indels 67; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels 32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64
                                                                                                                                                                           4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1;
```

```
APPLICANT: MATY FARIS

APPLICANT: MATY FARIS

APPLICANT: Arthur B. Raitano

APPLICANT: Arthur B. Raitano

APPLICANT: Steve Chappell Mitchell

APPLICANT: Steve Chappell Mitchell

APPLICANT: Daniel E.H. Afar

APPLICANT: Daniel E.H. Afar

APPLICANT: Aya Jakobovits

TITLE OF INVENTION: GTP-BINDING PROTEIN USEFUL IN TREATMENT

TITLE OF INVENTION: AND DETECTION OF CANCER

FILE REFERENCE: 129.6USU1

CURRENT APPLICATION NUMBER: US/09/834,765

CURRENT FILING DATE: 2001-09-21

PRIOR APPLICATION NUMBER: 60/197,647

PRIOR FILING DATE: 2000-04-12
                                                                                                                                                                                                                                                                                                                                                                                   US-09-834-765-766; A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 8
US-09-925-302-534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; ORGANISM: Homo sapiens US-09-925-302-534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION NUMBER: 60/124,270
PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 896
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 534
LENGTH: 246
                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                               Sequence 766, Application US/09834765 Patent No. US20020055478A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 534, Application US/09925302 Patent No. US20020044941A1
SEQ ID NO 766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/09/925,302
CURRENT FILLING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05918
PRIOR FILING DATE: 2000-03-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Rosen et al. TITLE OF INVENTION: Nucleic Acids, Proteins FILE REFERENCE: PA104
                     SOFTWARE:
                                           NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      149 TAGGAEK 155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             161 LLGNKCDMEAKRKVQKEQADKLAREHGIRFFETSAKSSMNVDEAFSSLARDILLKSG-GR 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            101 KLQVWDTAGQERFKTITTAYYRGAMGIILVYDITDEKSFENIQNWMKSIKENASAGVERL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 KLQI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Match 44.1%;
Local Similarity 41.7%;
les 78; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MDDKRVVPKGKGEQIAREHGIRFFETSAKANINIEKAFLTLAEDI---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LTTKKVYDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAGGAEK 155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RSGNGNK 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----LRKTPVKEPNSENVDISSGGGVTGWKSKCC 218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SNVKIQSTPVKQ-----SGGG-----CC
                   FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; Score 390.5; DB 10;
; Pred. No. 2.5e-31;
35; Mismatches 41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -----ESFNNVKQWLQEIDRYASENVNKL 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 246;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2
```

```
RESULT 11
US-09-945-173-5
                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                             Дb
                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                             δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; ORGANISM: Homo US-09-834-765-766
                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; OTHER INFORMATION: Pfam accession number PF00071 US-09-794-257-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 10
US-09-794-257-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
Sequence 5, Application US/09945173
Patent NO. US20020127568A1
GENERAL INFORMATION:
APPLICANT: Millennium Pharmaceuticals,
APPLICANT: Meyers, Rachel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: 16
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: Meyers, Rachel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 16, Application US/09794257 Patent No. US20020009804A1
                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: 32705, 23224, 27423, 32700, 32712, No. US20020009804A1el TITLE OF INVENTION: Human G-Proteins FILE REFERENCE: 35800/209285 CURRENT APPLICATION NUMBER: US/09/794,257 CURRENT FILING DATE: 2001-02-27 PRIOR APPLICATION NUMBER: 60/185,606 PRIOR FILING DATE: 2000-02-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 19
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Artificial Sequence FEATURE:
                                                                                                                                                         178
                                                                                                                                                                                        148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 ROVSKERGEKLALDYGIKFMETSAKANINVENAFFTLARDIK 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100 KVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIK 141
                                                                                                                                                                                                                        121 DEDLELTEGQKRVVSTEEGEALAKELGALPFMETSAKTNTNVEEAFEELAREILKKV----
                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                              65
                                                                                                                                                                                                                                                                                                                                                                              12 FKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQI------
                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
les 86; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                                                                                                                                                                                                                            -
                                                                                                                                                       -----SEVNVNLDQ-PAKKKKSKCC 196
                                                                                                                                                                                                                                                                                             FRALRPAYYRGAQGFLLVYDITSRDSFENVKKWLEEILRHADKDENVPIVLVGNKCDLED
                                                                                                                                                                                                                                                                                                                                                              KLVLIGDSGVGKSSLLIRFTDNKFVEEYIPTIGVDFYTKTVEVDGKTVKLQIWDTAGQER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FKLLLIGDSGVGKTCVLFRFSEDAFNSTFISTIGIDFKIRTIELDGKRIKLQIWDTAGQE 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT
                                                                                                                                                                                       ATAGGAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RFRTITTAYYRGAMGIMLVYDITNEKSFDNIRNWIRNIEEHASADVEKMILGNKCDVNDK 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ------ESFNNVKQWLQEIDRYASENVNKLLVGNKCDLTTK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     198
                                                                                                                                                                                                                                                         ----TKKVVDYTTAKEFADSLG-IPFLETSAKNATNVEQSFMTMAAEIKKRMGPG 147
                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                               40.98;
41.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               41.98;
                                                                                                                                                                                                                                                                                                            ------ESFNNVKQWLQEIDRYA--SENVNKLLVGNKCDLT-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28;
                                                                                                                                                                                                                                                                                                                                                                                                                             25; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 362.5; DB 1 Pred. No. 1.1e-28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 371; DB 10;
Pred. No. 1.2e-29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                 40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 162;
                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 198;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               32;
                                                                                                                                                                                                                                                                                                                                                                                                                               55;
                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                            177
                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99
                                                                                                                                                                                                                                                                                                                              97
                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                               64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64
                                                                                                                                                                                                                                                                                                                                                                                                                               6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.
```

```
밁
                           ρý
                                                                      밁
                                                                                                 δõ
                                                                                                                                                                                                               ; OTHER INFORMATION: Consensus amino acid sequence US-09-972-529-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 12
US-09-972-529-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뭕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    , OTHER INFORMATION: Consensus amino acid sequence US-09-945-173-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 41...
Conservative
                                                                                                                                           Query Match
Best Local S
Matches 86
                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: US 60/237,716
PRIOR FILING DATE: 2000-10-05
NUMBER OF SEQ ID NOS: 9
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 4
LENGTH: 198
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 4, Application US/09972529
Patent No. US20020150916A1
                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Millennium Pharmaceuticals, Inc.
APPLICANT: Meyers, Rachel
TITLE OF INVENTION: 47316, A NOVEL HUMAN G-PROTEIN AND
TITLE OF INVENTION: THEREFOR
TILE REFERENCE: 38155-20041.00
CURRENT APPLICATION NUMBER: US/09/972,529
CURRENT FILING DATE: 2002-04-08
CURRENT FILING DATE: 2002-04-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: 47324, A NOVEL HUMAN G-PROTEIN AND USES TITLE OF INVENTION: THEREFOR ETLE REFERENCE: 38155-20035.00
CURRENT APPLICATION NUMBER: US/09/945,173
CURRENT ELING DATE: 2001-08-31
PRIOR APPLICATION NUMBER: US 60/229,293
PRIOR APPLICATION NUMBER: US 60/229,293
PRIOR FILING DATE: 2000-09-01
NUMBER OF SEQ ID NOS: 11
SOFTMARE: FRSTSEQ for Windows Version 4.0
SEQ ID NO 5
ENGTH: 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                 ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 148 ATAGGAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 DEDLELTEGQKRVVSTEEGEALAKELGALPFMETSAKTNTNVEEAFEELAREILKKV---
    61
                                                                98 -----TKKVVDYTTAKEFADSIG-IPFLETSAKNATNVEQSFMTMAAEIKKRMGPG 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  13 KLLLIGDSGYGKSCLLLRFADDTYTESYISTIGYDFKIRTIELDGKTIKLQI------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 FRALRPAYYRGAQGFLLVYDITSRDSFENVKKWLEEILRHADKDENVPIVLVGNKCDLED 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 KLVLIGDSGVGKSSLLIRFTDNKFVEEYIPTIGVDFYTKTVEVDGKTVKLQIMDTAGQER 60
FRALRPAYYRGAQGFLLVYDITSRDSFENVKKWLEEILRHADKDENVPIVLVGNKCDLED 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----SEVNVNLDQ-PAKKKKSKCC 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        l Similarity
86; Conserv
                                                                                                                                           Conservative
                                                                                                                                         40.9%; Score 362.5;
41.7%; Pred. No. 1.1
ative 25; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                40.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25;
                                 ---ESFNNVKQWLQEIDRYA--SENVNKLLVGNKCDLT- 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 362.5; DB 10;
Pred. No. 1.1e-28;
5; Mismatches 40;
                                                                                                                                           Mismatches
                                                                                                                                                         1.1e-28
                                                                                                                                                                            DB 10;
                                                                                                                                           40;
                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 198;
                                                                                                                                                                            Length 198;
                                                                                                                                           55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              64
                                                                                                                                           6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6,
```

```
CURRENT APPLICATION NUMBER: US/09/350,874
CURRENT FILING DATE: 1999-07-09
EARLIER APPLICATION NUMBER: USSN 60/110,277
EARLIER FILING DATE: 1998-11-30
EARLIER FILING DATE: 1998-11-30
EARLIER FILING DATE: 1998-11-25
EARLIER FILING DATE: 1998-11-25
EARLIER APPLICATION NUMBER: USSN 60/109,333
EARLIER APPLICATION NUMBER: USSN 60/109,333
EARLIER APPLICATION NUMBER: USSN 09/298,731
EARLIER APPLICATION UMBER: USSN 09/298,731
EARLIER ENLING DATE: 1999-04-23
NUMBER OF SEQ ID NOS: 72
SOFTMARE: PATENTIN VET: 2.0
SECOND OF SERVING SE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; LENGTH: 212
; TYPE: PRT
; ORGANISM: Rattus sp
US-09-350-874-67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 13
US-09-350-874-67
Sequence 67, Application US/09350874
Patent No. US20020019020A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-817-198A-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                          Sequence 4, Application US/09817198A
Patent No. US20020146758A1
GENERAL INFORMATION:
APPLICANT: YE, Jane et al.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local :
CURRENT APPLICATION NUMBER: US/09/817,198A
CURRENT FILING DATE: 2001-03-27
NUMBER OF SEQ ID NOS: 33
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                           APPLICANT: YE, Jane et al.
TITLE OF INVENTION: ISOLATED HUMAN RAS-LIKE PROTEINS,
TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING
TITLE OF INVENTION: PROTEINS, AND USES THEREOF
FILE REFERENCE: CL001188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE OF INVENTION: MET FILE REFERENCE: MNI-069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Rhodes, Ken APPLICANT: An, Wengian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183 NGIKIGPQHAATNASHGGNQGGQQAGGGCC 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 156 SNVKIQSTPV------KQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             123 LESRREVKKEEGEAFAREHGLIFMETSAKTASNVEEAFINTAKEIYEKIQEGVFDINNEA 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  y Match 37.6%;
Local Similarity 34.8%;
hes 73; Conservative 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3 YAYLFKYIIIGDTGVGKSCLLLQFTDKRFQPVHDLTIGVEFGARMITIDGKQIKLQIWDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 YDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQI---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAGGAEK 155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGQESFRSITRSYYRGAAGALLVYDITRRDTFNHLTTWLEDARQHSNSNMVIMLIGNKSD 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATAGGAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEDLELTEGQKRVVSTEEGEALAKELGALPFMETSAKTNTNVEEAFEELAREILKKV---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----TKKVVDYTTAKEFADSLG-IPFLETSAKNATNVEQSEMTMAAEIKKRMGPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEVNVNLDQ-PAKKKKSKCC 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kenneth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        METHODS FOR TREATING CARDIOVASCULAR DISORDERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -------ESFNNVKQWLQEIDRYASENVNKLLVGNKCD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; Score 333; DB 10;
; Pred. No. 9.6e-26;
38; Mismatches 55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 212;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels 44;
                                                                                                                                                                                                                                                                           THESE HUMAN RAS-LIKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          147
```

Ŋ

```
Sequence 2, Application US/09817198A
Patent No. US20020146758A1
GENERAL INFORMATION:
APPLICANT: YE, Jane et al.
TITLE OF INVENTION: ISOLATED HUMAN RAS-LIKE PROTEINS,
TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING THESE HUMAN RAS-LIKE
TITLE OF INVENTION: PROTEINS, AND USES THEREOF
FILE REFERENCE: CL001188
CURRENT FILING DATE: 2001-03-27
NUMBER OF SEQ ID NOS: 33
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 2
LENGTH: 212
TYPE: PRT
ORGANISM: Human
US-09-817-198A-2
Search completed: November 17, 2002, 13:08:37 Job time: 21 secs
                                                                                  밁
                                                                                                              δõ
                                                                                                                                                                망
                                                                                                                                                                                               δÕ
                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                 γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 15
US-09-817-198A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; LENGTH: 212
; TYPE: PRT
; ORGANIEM: Rattus norvegicus
US-09-817-198A-4
                                                                                                                                                                                                                                                                                                                               Query Match 36.2%; Score 321; DB 10; Length 212; Best Local Similarity 39.5%; Pred. No. 1.5e-24; Matches 64; Conservative 28; Mismatches 38; Indels 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 36.5
Best Local Similarity 34.2
Matches 69; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 RTCASNELALAELEEDEGKTEG 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 NKADEEQKRQVGREQGQQLAKEYGMDFYETSACTNLNIKESFTRLTELVLQAHRKELDGL 180
                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     148 ATAGGAEKSNVKIQSTPVKQSG 169
                                                                                                                   92 NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSF 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               92 NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEI----KKRMGPG 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            64
                                                                                                                                                                61 IWDTAGQERYQTITKQYYRRAQGIFLYYDISSERSYQHIMKWVSDVDEYAPEGVQKILIG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 IWDTAGQERYQTITKQYYRRAQGIFLVYDISSERSYQHIMKWVSDVDEYAPEGVQKILIG 120
                                                                                                                                                                                                                                               4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ 63
| :|| ||:|||||||||||| || ||:|| ||:::|
| MAKQYDVLFRLLLIGDSGVGKTCLLCRFTDNEFHSSHISTIGVDFKMKTIEVDGIKVRIQ 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MAKQYDVLFRLLLIGDSGVGKTCLLCRFTDNEFHSSHISTIGVDFKMKTIEVDGIKVRIQ 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NKADEEQKRQVGREQGQQLAKEYGMDFYETSACTNLNIKESF 162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               36.5%; Score 323; DB 10; Length 212; 34.2%; Pred. No. 9.2e-25; tive 36; Mismatches 61; Indels 36; Gaps
                                                                                                                                                                                        Indels 32;
                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ?
```

```
Command line parameters:

-MODEL-frame+_D2n.model_-DEV=xlh
-Q=_Cgn2_1/USPTO_spool_VIS09820003/runat_13112002_134616_3176/app_query.fasta_1.327
-DB=_Cgn2_1/USPTO_spool_VIS09820003/runat_13112002_134616_3176/app_query.fasta_1.327
-DB=_CenEmbl -QFMT=fastap -SUFFIX=-ge -MINNATCH=0.1 -LOOPCL=0 -LOOPEXT=0
-UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -FRANS=hunanan40.cdi -LIST=45
-DCCALIGN=200 -THR_SCORE=pet -THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE-LOCAL
-OUTFMT=pto -NORM=ext -HEARSIZE=500 -MINLEN=0 -MAXLEN=200000000
-USER=US09820003_eCGN_1_1_1616_@runat_13112002_134616_3176 -NCPU=6 -ICPU=3
-NO_XLPXY -NO_MMAP -LARGEQUERY -NEG_SCORES=0 -WAIT -LONGLOG -DEV_ITMEOUT=120
-WAPN TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6 -FGAPEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Total number of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB seq length: 0
DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ٠
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         nucleic search, using frame_plus_p2n model
GenEmbl:*

1: 9b.htg
3: 9b.htg
3: 9b.ln:
4: 9b.pa:
5: 9b.pa:
7: 9b.pi:
9: 9b.pr:
10: 9b.ri
11: 9b.st
11: 9b.st
11: 9b.st
11: 9b.st
11: 9b.st
11: 9b.st
12: 9b.st
12: 9b.st
12: 9b.st
13: 9b.un
14: 9b.ri
15: em_ba
16: em_fu
17: em_bu
17: em_bu
18: em_fu
18: em_s
20: em_om
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-820-003A-2
886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Xgapop 10.0 , Xgapext
Ygapop 10.0 , Ygapext
Egapop 6.0 , Egapext
Delop 6.0 , Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 November 17, 2002, 13:05:13; Search time 2644 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2054640 seqs, 14551402878 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MSSMNPEYDYLFKLLLIGDS.....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd.
                                                                                                                                                                                                                                                                                           gb_pat:*
gb_ph:*
gb_pl:*
gb_pr:*
gb_ro:*
gb_ro:*
gb_sy:*
                                                                                                                                                                                                                                                                                                                                                                                                                                   gb_ba:*
gb_htg:*
gb_in:*
gb_om:*
gb_ov:*
               em_in:*
em_ou:*
em_or:*
em_ov:*
em_ov:*
em_pat:*
em_ph:*
em_pl:*
em_pl:*
                                                                                                                                                                                                    gb_un:*
gb_vi:*
gb_vi:*
em_ba:*
em_fun:*
em_hum:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (without alignments)
1904.230 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4109280
```

```
29: em_vi:*
30: em_htg_inv:*
31: em_htg_oinv:*
32: em_htg_other:*
33: em_htg_other:*
34: em_htg_plo:*
36: em_htg_rod:*
36: em_htg_rod:*
36: em_htg_oman:*
37: em_htg_other:*
41: em_htg_other:*
41: em_htgo_other:*
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

## Result No. O a a O 838 768.5 762.5 762.5 762.5 762.5 762.5 762.5 773.5 733.5 733.5 733.5 733.5 733.5 733.5 658.5 658.5 658.5 645.6 645.6 645.6 645.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 633.6 63 Query Match Length DB 329229210 329229210 329229210 E03861 AF498929 HUMRAB1A CFRAB1 AF49829 Homo sapi M28209 Homo sapi X56384 Canine rabi X56384 Canine rabi X56384 Canine rabi X56384 Canine rabi X56384 Canine sapi X5600905 Homo sapi BC0020077 Mus muscu AF226873 Mus muscu AF226873 Mus muscu AF226873 Mus muscu AF226873 Homo sapi X13905 Rattus no BC016408 Mus muscu AC113143 Rattus no AC117841 Rattus no AC11784 Borrytis AC11784 Paponicus AC11784 Paponicus AC11784 Arabidops AC11479 Borrytis E03861 cDNA encodi AF498929 Homo sapi Description

ALIGNMENTS

RESULT 1

```
E03861
LOCUS
DEFINITION
ACCESSION
VERSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                        Best I
Query
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
 Ъ
                 δÃ
                                  В
                                                      δ
                                                                              В
                                                                                              δ
                                                                                                               В
                                                                                                                                  δÃ
                                                                                                                                                          B
                                                                                                                                                                        Š
                                                                                                                                                                                                 В
                                                                                                                                                                                                               δĀ
                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                     VΩ
                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                     US-09-820-003A-2 (1-173) x E03861 (1-615)
                                                                                                                                                                                                                                                                                                                                                                                Score:
                                                                                                                                                                                                                                                                                                                                                                                        Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                 Y Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
421
                                                                                                                                                                                                   121
                                        361
                                                                               301
                                                                                                                     241
                                                                                                                                                            181
                                                          89
                                                                                                 69
                                                                                                                                        65
                                                                                                                                                                               61
                                                                                                                                                                                                                     41
                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                           21
                                                                                                                                                                                                                                                                               ш
                                                                                                                                                                                                                                                                             GluPheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsn
                                                                                                                     TACAGAGGAGCCCATGGCATCATAGTTGTGTGTGTGACAGATCAGGAGTCCTTCAAT
GAATTTGCAGATTCCCTTGGAATTCCATTTTTGGAAACCAGTGCTAAGAACGCAACGAAT
                                                 LeuValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLys
                                                                             LysLeuGlnIle-----
                                       TTGGTAGGGAACAAATGTGACCTGACCACAAAGAAAGTAGTAGACTACACAACAGCAAAG
                                                                                                                                                          AAGCTACAGATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACTTCCAGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PR PR PR CCC CCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Yamaguchi, K., Uchida, K., Takai, Y., Aisaka, K. and Sakurada, K. LOW-MOLECULAR WEIGHT PROTEIN BINDING TO GUANOSINE TRIPHOSPHATE Patent: JP 1992226000-A 3 14-AUG-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa;
Mammalia; Eutheria;
1 (bases 1 to 615)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E03861.1 GI:2172075
JP 1992226000-A/3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KYOWA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                              196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              encoding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SAKURADA KAZUHIRO
C07K15/18,C07K13/00,C07K15/06,C12N15/12,G01N33/50//A61K37/02;
strandedness: Single;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25-APR-1991 JP 1991095304
21-MAY-1990 JP 90P 130547
YAMAGUCHI KAZUO, UCHIDA KAZU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus sp (mouse)
JP 1992226000-A/3
14-AUG-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             topology: Linear.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HAKKO KOGYO CO LTD
                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Mus sp."
/db_xref="taxon:10095"
117 c 153 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                       4.51e-75
860.00
84.39%
84.39%
97.07%
                                                                                                                                                                                                                                                                                                                                                                                                                                                           .615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTP binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  UCHIDA KAZUHISA, TAKAI YOSHIMI, AISAKA KAZUO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         615
                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein
                                                                                                                                                                                                                                                                                                                                       Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         þþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                              149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RNA
ypt1.
                                                                                                                                                                                                                                                                                                                                                                                                                             đ
                                                                                                                                                                                                                                                                                                                                       615
173
0
32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                            -GluSerPheAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29-SEP-1997
                                       420
                                                          108
                                                                              360
                                                                                                                   300
                                                                                                                                      89
                                                                                               88
                                                                                                                                                          240
                                                                                                                                                                             64
                                                                                                                                                                                                 180
                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                             60
```

```
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 2
AF498929
LOCUS
                                                                                                                                                                                                                BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
ORGANISM
                                                                                                                              Query
 밁
                  Qy
                                             В
                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                           US-09-820-003A-2 (1-173) x AF498929
                                                                                                                                          Percent Similarity:
Best Local Similarity:
                                                                                                                                                                            Alignment
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                              gene
                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                               Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   149
 61
                       21
GlyGlyGlyCysCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGTGGAGGCTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Submitted (05-APR-2002) cDNA Resource Institute, One Guthrie Square, Sayre,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2 (bases 1 to 618)
Puhl, H.L. III, Iked
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 (bases 1 to 618)
Puhl,H.L. III, Ikeda,S.R. and
Homo sapiens RAB family small
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AF498929.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AF498929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AF498929
                                                                                                                                                                                                                           203
                                                                                                                                                                                                                           þ
                                                                                                                                                                                                                       /codon_start=1
/rodon_start=1
/product="small GTP binding protein RABLA"
/protein_id="AAM21077.1"
/protein_id="AAM21077.1"
/db_xref="GI:20379034"
/translation="MSSMNPEYDYLFKLLIGDSGVGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGVGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGVGKSCLLLRFADDTYTESYISTI
/VENSKIRTIELDGKTIKLQIMDTAGQEERRTITYSTYRGAHGILTVYTDYTDQESFNNV
KQWLQEIDRYASENVNKLUGNKCDLTTKKVVDYTTAKFADSLGIFFLETSAKNATN
VENSFMTMAAEIKKRMGFGATAGGAEKSNVKIQSTPVKQSGGGCC"
vENSFMTMAAEIKKRMGFGATAGGAEKSNVKIQSTPVKQSGGGCC"
a 110 c 149 g 156 t
                                                                                                                                                                                                                                                                                                                                                                                                                                      , One Guthrie Square, Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                               /tissue_type="brain"
1. .618
                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                 /note="RAB family member"
                                                                                                                                                                                                                                                                                                                                              /gene="RAB1A"
                                                                                                                                                                                                                                                                                                                                                                  /gene="RAB1A"
                                                                                                                                                                                                                                                                                                                                                                                                                               1. .618
                                                                                                                                                                                                                                                                                                                                                        .618
                                                                                                                   4.53e-75
860.00
84.39%
84.39%
97.07%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GI:20379033
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       small
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ikeda, S.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTP binding
                                                                                           (1-618)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  618 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and
                                                                                                                Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Aronstam,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Aronstam, R.S. GTP binding p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   esource Center, G
Sayre, PA 18840,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein RABIA (RABIA) mRNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ,R.S.
                                                                                                                   618
173
0
0
32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Guthrie
                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRI 01-MAY-2002
) mRNA, complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Research
                        40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               600
                                             60
                                                                    20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
```

ICSERTITILEGLYValAspPheLysTlaArgThrIleGluLeuAspGlytysThrI	spPheLysIleArgThrIleGluLeuAsp(	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ORGANISM Homo sapiens Eukaryota; Metazoa; Chor Eukaryota; Metazoa; Chor Mammalia; Eutheria; Prim REFERENCE 1 (bases 1 to 723) AUTHORS Zahraoui, A., Touchot, N., TITLE The human Rab genes enco JOURNAL The human Rab genes enco JOURNAL J. Biol. Chem. 264 (21), MEDLINE 89308668 PUBMED 2501306 COMMENT On Sep 27, 1994 this seq FEATURES 1 Location/Qualif Source 1,723	Qy 169 GlyGlyGlyCysCys 173	109 421 129 481 149 541	Oy 41
	180 180 180 180 180 180 180 180 180 0RIGIN Alignment Pred No. Score: Percent S Percent	""" TAXON SAPIENS" "" TAXON 9606" "ASSIGNED" LTYPE="pheochromocytoma" LID="of J.Mallet"  ABI1" ABI1"	a; Chordata; Craniata; Vertebrata; Eutela; primates; Catarriini; Hominidae; Home 13)  hot, N., Chardin, P. and Tavitian, A. ess encode a family of GTP-binding proteit SEC4 products involved in secretion 14 (21), 12394-12401 (1989)  his sequence version replaced gi:341862.  (Qualifiers	723 bp mRNA linear binding protein (RABI) mRNA, comple 59 area oncogene. In; ras oncogene.		SpPheLysTleArgThrIleGluLeuAspGlyLysThrI.

```
44.1 GI:913
binding protein;
familiaris.
familiaris
                                                                   1
2 rabl mRNA for ras-related GTP-binding protein involved in traffic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         y:
rity:
/ota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Lia; Eutherla; Carnivora; Fissipedia; Canidae; Canis.
ases 1 to 840)
                                                                                                                                                                                              yCysCys 173
                                                                                                                                                            AATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACCTCCAGTTAT 290
                                                                                                                                                                                                                                                                                                                                                                                              nIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                riccrec 665
                                                                                                                                                                                                                                                                                                                                          AGCCCATGGCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAAT 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1-173) x HUMRABIA (1-723)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GVDFKIRTIELDGKTIKLQIWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNV
KQWLQEIDRYASENVKLLVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATN
VEQSFMYMAGEIKKKNWGAATAGGAEKSNVKIQSTPVKQSGGGCC"
a 142 c 180 g 176 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5.46e-75
860.00
84.39%
84.39%
97.07%
                                            protein transport;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                            ras
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         723
173
0
0
32
                                            gene;
                                             ras
                                            gene family
                                                                                                                                                                                                                                                                                                       410
                                                                                                                                                                                                                                                                                                                        88
                                                                                                                                                                                                                                                                    470
                                                                                                                                                                                                                                                                                                                                                          83
                                                                                                                                                                                                                                                                                                                                                                                             64
                                                                                                                                                                                                                                                                                                                                                                                                               230
                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  40
```

```
Best Local S:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PUBMED
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                              Qy
               Š
                                       В
                                                        Ωy
                                                                                      밁
                                                                                                               δÃ
                                                                                                                                                                                        В
                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                             US-09-820-003A-2 (1-173) x CFRAB1 (1-840)
                                                                                                                                                                                                                                                                                                                                                                                                                                            Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                          449
                                                                                                                                                                                                                                             269
                                                                                                                                                                                                                                                                                                                                              149
                 109
                                                                                                                                          389
                                                                                                                                                                                           329
                                                                                                                                                                                                                                                                                              209
                                                                                                                                                                                                                                                                    41
                                                                                                                 69
                                                                                                                                                                   65
                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                     21
                                                                                                                                                                                                                                                                                                                                                                       GlyValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyr
                                                                                                                                                                                                                                                                                                                                           LeuValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLys
                                                                                                                                                                                                                                                                                         GGGTTGGAAAGTCTTGCCTCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTAC
               GluPheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsn
                                       TTGGTAGGGAACAAATGCGATCTGACCACAAAGAAGTAGTAGACTACACAACAGCAAAG
                                                                                         AATGTTAAACAGTGGCTGCAGGAAATAGACCGTTATGCCAGTGAAAAACGTCAACAAGTTG
                                                                                                    AsnValLysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeu
                                                                                                                                         TACAGAGGAGCCCATGGCATCATAGTTGTGTATGACGTGACAGATCAGGAGTCCTTCAAT
                                                                                                                                                                                          AAGCTTCAAATATGGGACACAGCAGGCCAAGAAAGATTTCGAACAATCACCTCCAGTTAT
                                                                                                                                                                                                                    LysLeuGlnIle-----
Direct Submission
Submitted (17-AUG-1990) Zerial
Heidelberg, FRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mol. Cell
91061765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Chavrier, P., Vingron, M., Sander, C., Simons, K. and Zerial, M. Molecular cloning of YPTI/SEC4-related cDNAs from an epithelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2 (bases 1 to
Zerial, M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cell. Biol. 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /translation="MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTI
GVDFK.TRTIELDGKTIKLQINDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNV
KQMLQEIDRYASENVNKLLVGNKCDLTTKKVVDYTTAKEFADSLGIFFLETSAKNATN
VEQSFMTMAAEIKKRNGPGATAGGAEKSNVKIQSTPVKQSGGGCC"
176 c 220 g 194 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /protein_id="CAB56775.1"
/db_xref="GI:6006435"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone="47"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /strain="cocker spaniel"
/db_xref="taxon:9615"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   function="GTP binding protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene="rab1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /gene="rab1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /cell_line="MDCK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ∕organism="Canis familiaris"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                 6.52e-75
860.00
84.39%
84.39%
97.07%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           840)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (12),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6578-6585 (1990)
                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .
K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Meyerhofstrasse
                                                                                                                                                                                                                                                                                                                                                                                                                       840
173
0
0
32
                                                                                                                                                                 GluSerPheAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1,
                                                              108
                                                                                                               88
                                                                                                                                        448
                                                                                                                                                                  68
                                                                                                                                                                                           388
                                                                                                                                                                                                                                          328
                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                  40
                                                                                         508
                                                                                                                                                                                                                                                                                            268
                                                                                                                                                                                                                                                                                                                                                                    20
                                                                                                                                                                                                                 64
```

```
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                  Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
MMYPT1
          δÃ
                                                                                                                                                                                            BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                           US-09-820-003A-2 (1-173) x MMYPT1
                                                                                       Query Match:
                                                                                                     Best Local Similarity:
                                                                                                                   Percent Similarity:
                                                                                                                                    Score:
                                                                                                                                                                Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                  .
№
..
                                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                        polyA_site
                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            569
1 MetSerSerMetAsnProGluTyrAspTyrLeuPheLysLeuLeuLeuIleGlyAspSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ValGluGlnSerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlyGlyGlyCysCys 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAATTTGCGGATTCCCTTGGAATTCCATTTTTGGAAACCAGTGCTAAGAACGCAACGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGTGGAGGTTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCTGGAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D-3400 Goettingen, FRG
2 (bases 1 to 1428)
Haubruck,H., Disela,C., Wagner,P. and Gallwitz,D.
Haubruck,H., Disela,C., Wagner,P. and Gallwitz,D.
The ras-related ypt1 protein is an ubiquitous eukaryotic isolation and sequence analysis of mouse cDNA clones high homologous to the yeast YPT1 gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (13-NOV-1987) Gallwitz D., Max-Planck-Institut fuer biophysikalische Chemie, Abt. Molekulare Genetik, Postfach 2841,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gallwitz, D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ras-related protein;
Mus musculus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Y00094.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MMY PT1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 1428)
                                                                                                                                                                                                              410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           J. 6 (1987) In press
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mRNA for ras-related YE
                                                                                                                                                                                                                                                                      1401.
                                                                                                                                                                                                                                                                                  /db_xref="SWISS-PROT:P11476"
/translation="MSSMNPEYDYLFKLIGDSGVGKSCLLLRFADDTYTESYISTI
GVDFKIRTIELDGKTIKLQIWDTAGQERFRTITSSYYRGAHGIIVYYDVTDQESFNNV
KQWLQEIDRYASENVNKLLVGNKCDLTYKKVVDYTTAKEFADSLGIPFLETSAKNATN
KQWTQBIDRYASENVKIGNGTATAGGAEKSNVKIQSTPVKQSGGCC"
VEQSFMTMAAEIKKRMGPGATAGGAEKSNVKIQSTPVKQSGGCC"
                                                                                                                                                                                                            /note="polyA site"
263 c 324 g
                                                                                                                                                                                                                                                                                                                                                            /protein_id="CAA68284.1"
/db_xref="GI:55457"
/db_xref="MGD:MGI:97842"
                                                                                                                                                                                                                                                                                                                                                                                                                                      /cell_line="F9 and C3H10T1/2" 130. .747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Mus musculus"
/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                       /codon_start=
                                                                                                                                                                                                                                                                                                                                                                                                                     /note="Ypt1 protein (AA 1-205)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GI:55456
                                                                                                                                                                                                                                                     /note="pot. polyA signal"
                                                                         1.22e-74
860.00
84.39%
84.39%
97.07%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             763
                                                                                                                                                                                                                                                                         . 1406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     YPT1 gene
                                          (1-1428)
                                                                                                                                                                                                          g
                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mRNA
protein.
                                                                                                                                                                                                              431
                                                                       1428
173
0
0
32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ROD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             628
               20
```

밁

130

ATGTCCAGCATGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGATTCT

```
REMARK
COMMENT
                                                                                                                                                                                                                                                                 ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                       RESULT 6
BC000905
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
da
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
da
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                             AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                    730
                                                                                                                                                                                                                                                                                                                                                                                                                          169
                                                                                                                                                                                                                                                                                                                                                                                                                                                  670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21
NIH-MGC Project URL: http://mgc.nci.nih.gov
On Jul 12, 2001 this sequence version replaced gi:12654174.
Contact: MGC help desk
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Baylor College of Medicine Human Genome
Sequencing Center
Center code: BCM-HGSC
Web site: http://www.hgsc.bcm.tmc.edu/cdna/
Villalon, D.K., Luna, R.A., Hale, S.M., Hulyk, S., Lu, X., Gai
                                                                                                                                                                                                                                                                                                                                                                                                                GlyGlyGlyCysCys 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ValGluGlnSerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAla 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAATTTGCAGATTCCCTTGGAATTCCATTTTTGGAAACCAGTGCTAAGAACGCAACGAAT 609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GluPheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsn 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTGGTAGGGAACAAATGTGACCTGACCACAAAGAAAGTAGTAGACTACACAACAGCAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLys 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AsnValLysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeu 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysteuGlnIle------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IleSerThrIleGlyValAspPheLysIleArgThrIleGluLeuAspGlyLysThrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGTGGAGGCTGCTGC 744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCTGGAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AACGTTAAACAGTGGCTGCAGGAGATAGATCGCTACGCCAGTGAAAATGTCAACAAGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TACAGAGGAGCCCATGGCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAGCTACAGATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACTTCCAGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATCAGCACAATTGGTGGGATTTCAAGATACGAACTATAGAGTTAGATGGGAAAACAATC
                                                                                                                                                                Direct Submission Submitted (16-NOV-2000) National Institutes of Health, Mammalian Submitted (16-NOV-2000) National Institutes, National Cancer Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                               Homo sapiens.
Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 1433)
                                                                                                                                                                                                                                                                                                    Homo sapiens, RAB1, meml
IMAGE:2900705, mRNA, cor
BC000905
BC000905.2 GI:14705268
                                                                                                                                                                                                                                                                                                                                         RAB1,
                                                                                                                                                                                                                                                                                                                                       1433 bp
member RAS c
                                                                                                                                                                                                                                                                                                                      nember RAS oncogene family, clone MGC:5233 complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -GluSerPheAsn 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
                      Дb
                                            δÃ
                                                                       Dр
                                                                                         Qy
                                                                                                                    В
                                                                                                                                        Qy
                                                                                                                                                                    멍
                                                                                                                                                                                      οy
                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                   Qy
 δõ
                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                          599
                                                                                                                       479
                                                                                                                                                                                                                                                                                                                                                               179
                                                                                                                                                                     419
                                                                                                                                                                                                                    359
                                                                                                                                                                                                                                                                    299
                                                                                                                                                                                                                                                                                                                 239
                                                                                               89
                                                                                                                                              69
                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                       41
                                                                                                                                                                                            65
                                                                                                                                                                                                                                                                                                                                       21
                                                                                                                                                                                                                                                                                                                                                                                      μ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            432
```

```
Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-820-003A-2 (1-173) x BC000905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MetSerSerMetAsnProGluTyrAspTyrLeuPheLysLeuLeuLeuIleGlyAspSer
                                                                                                                                                                                                                                                                                                                         LeuValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLys 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                         AATGTTAAACAGTGGCTGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAACAAATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AsnValLysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TACAGAGGAGCCCATGGCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IleSerThrIleGlyValAspPheLysIleArgThrIleGluLeuAspGlyLysThrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlyValGlyLysSerCysLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGTCCAGCATGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGACTCA
ValGluGlnSerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAla 148
                                                                                     GAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGAAT
                                                                                                                                                                          GluPheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsn 128
                                                                                                                                                                                                                                                                         TTGGTAGGGAACAAATGTGATCTGACCACAAAGAAAGTAGTAGACTACACAACAGCGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGCTTCAAATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACCTCCAGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LysLeuGlnIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGGGTTGGAAAGTCTTGCCTTCTTAGGTTTTGCAGATGATACATATACAGAAAGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----GluSerPheAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Clone distribution: MGC clone distribution information can be four through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Series: IRAK Plate: 3 Row: k Column: 21
This clone was selected for full length sequencing because it passed the following selection criteria: matched mRNA gi: 4886442.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A.M., Holloway, M., Muzny, D.M., Gibbs, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
/db_xref="LocusID:5881"
/db_xref="taxon:9606"
/clone="MGC:5233 IMAGE:2900705"
/tissue_type="Placenta, choriocar
/clone_lib="NHH_MGC_10"
/*ab_bookstands
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product="RAB1, member RAS oncogene family"
/protein_id="RAB10905.1"
/protein_id="RAB10905.1"
/protein_id="RAB10905.1"
/db_xref="Gi:12554175"
/translation="MSSMNPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLLIGDSGYGKSCLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGYGKSCLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGYGKSCLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGYGKSCLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGYGKSCLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGYGKSCLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGYGKSCLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGYGKSCLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGYGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGYGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGYGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGYGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGYGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGYGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGYGKSCLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGYGKSCLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSGYGKSCLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLIGDSgygkscllrfaddisty"/
KOULDELSTANDTYNCHINGTON
/translation="MSSMNPEYDYLFKLLIGDSgygkscllrfadity"/
KOULDELSTANDTYNCHINGTON
/translation="MSSMNPEYDYLFKLLIGDSgygkscllrfadity"/
KOULDELSTANDTYNCHINGTON
/translation="MSSMNPEYDYLFKLLIGDSgygkscllrfadity"/
KOULDELSTANDTYNCHINGTON
/translation="MSSMNPEYDYLFKLIGHSgygkscllrfadity"/
KOULDELSTANDTYNCHINGTON
/translation="MSSMNPEYDYLFKLIGHSgygkscllrfadity"/
KOULDELSTANDTYNCHINGTON
/translation="MSSMNPEYDYLFKLIGHSgygkscllrfadity"/
KOULDELSTANDTYNCHINGTON
/translation="MSSMNPEYDYLFKLIGHSgygkscllrfadity"/
KOULDELSTANDTYNCHINGTON
/translation="MSSMNPEYDYLF"/
KOULDELSTANDTYNCHINGTON
/translation="MSSMNPEYDYLF"/
KOULDELSTANDTYNCHINGTON
/translation="MSSMNPEYDYLF"/
KOULDELSTANDTYNCHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="Vector: pCMV-SPORT6"
179. .796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1.23e-74
860.00
84.39%
84.39%
97.07%
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Telford,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (1-1433)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B, Hodgson, A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       choriocarcinoma"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bouck, J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Yu,
                                                                                          658
                                                                                                                                                                                                                                                                    598
                                                                                                                                                                                                                                                                                                                                                                                                                                                         538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
```

밁 δÃ 밁 δÃ 맑

```
REMARK
COMMENT
                                 BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 7
BC002077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
VERSION
Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                          CDS
                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGTGGAGGTTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GlyGlyGlyCysCys 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATTCAGAGCACTCCAGTCAAGCAGTCA 778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ThrAlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnSer 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus, Ri
IMAGE:3592802, I
BC002077
                                                                                                                                                                                                                                                                                                                                                                         Clone distribution: MGC clone distribution information can be for through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov Series: IRAK Plate: 11 Row: a Column: 2
This clone was selected for full length sequencing because it passed the following selection criteria: matched mRNA gi: 6679586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Direct Submission
Direct Submission
Submitted (31-JAN-2001) National Institutes of Health, Mammalian Submitted (31-JAN-2001) National Institutes of Health, Mammalian Sene Collection (MGC), Cancer Genomics Office, National Cancer Gene Collection (MGC), Room 11A03, Bethesda, MD 20892-2590,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDNA Library Preparation: Life Technologies, Inc. CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Sequencing Group at the Stanford Human Center, Stanford University School of Medicine, Stanford,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Gilbert Smith, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NIH-MGC Project URL: http://mgc.nci.nih.Contact: MGC help desk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Strausberg, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BC002077.1 GI:12805232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Dickson,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Web site:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nouse mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 1444)
                                                   412
                                                                                                                                                                                                                                                 /clone="MGC:6226 IMAGE:3592802"
/tissue_type="Mammary tumor. Metallothionien-TGF alpha model. 10 month old virgin mouse. Taken by biopsy."
/clone_lib="NOT_CGAP_Mam1"
                                                                            /db_xref="LocusID:5861"
/db_xref="LocusID:5861"
/translation="MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTI
/translation="MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTI
GVDFKIRTIELDGKTIKLQIWDTAGQERFRTITSSYYRGAHGIIVYYDVTDQESFNNV
KQWLQEIDRYASENVNKLLVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATN
                                                                                                                                                                                                        /note="Vector: 196. .813
                                                                                                                                         /codon_start=1
/product="RAB1, member RAS oncogene
/protein_id="AAH02077.1"
/db_xref="GI:12805233"
                                                                                                                                                                                                                                                                                                                 /db_xref="taxon:10090"
/map="FVB/N"
                                                             VEQSFMTMAAEIKKRMGPGATAGGAEKSNVKIQSTPVKQSGGGCC"
                                                                                                                                                                                                                                       /lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                  /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  http://www-shgc.stanford.edu
(Dickson, Mark) mcd@paxil.stanford.edu
M., Schmutz, J., Grimwood, J., Rodriquez,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RAB1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mRNA,
                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             member RAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              complete cds
                                                                                                                                                                                                                       pCMV-SPORT6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1444 bp
                                              ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               oncogene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             family,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                clone MGC:6226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Α.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ROD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Genome
CA 94305
                                                                                                                                                                                                                                                                                                                                                                                                                                                        found
                                             JOURNAL
REFERENCE
AUTHORS
                                                                                            REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                   RESULT 8
AF226873
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                     ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred.
Score:
                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-820-003A-2 (1-173) x BC002077
                                                                                                                                                                                      SOURCE
                                                                                                                                                                                                       KEYWORDS
                                                                                                                                                                                                                                                    DEFINITION
                                                                                                                                                                         ORGANISM
                 JOURNAL
                                                                                                                                                                                                                                                                                                                                796
                                                                                                                                                                                                                                                                                                                                                               169
                                                                                                                                                                                                                                                                                                                                                                                              736
                                                                                                                                                                                                                                                                                                                                                                                                                         149
                                                                                                                                                                                                                                                                                                                                                                                                                                                        676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   No
..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGTGGAGGCTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                            ThrAlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ValGluGlnSerPheMetThrMetAlaAlaGluTleLySLySArgMetGlyProGlyAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GluPheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LeuValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlyValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGTCCAGCATGAATCCCGGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGATTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MetSerSerMetAsnProGluTyrAspTyrLeuPheLysLeuLeuLeuIleGlyAspSer
                                                                                                                                                                                                                                                                                                                                                               GlyGlyGlyCysCys 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAATTTGCAGATTCCCTTGGAATTCCATTTTTGGAAACCAGTGCTAAGAACGCAACGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TACAGAGGAGCCCATGGCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LysLeuGlnIle------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGGGTTGGAAAGTCCTGCCTTCTCCTTAGGTTTGCAGATGATACGTATACGGAAAGCTAC
                                                                                                                                                                                                                                                                                                                                                                                            ACAGCTGGTGGTGCCGAGAAGTCCAATGTTAAAATCCAGAGCACTCCAGTCAAGCAGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCTGGAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGGTAGGGAACAAATGTGACCTGACCACAAAGAAAGTAGTAGACTACACAACAGCAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGCTACAGATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACTTCCAGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATCAGCACAATTGGTGGATTTCAAGATACGAACTATAGAGTTAGATGGGAAAACAATC
Cincinnati,
              Direct Submission
Submitted (19-JAN-2000)
                                           Unpublished 2 (bases 1 to 2686) Wu,G. and Dorn,G.W.
                                                                                                                                       Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                    Mus musculus small GTP-binding AF226873 AF226873.1 GI:6969621
                                                                                            Mouse
                                                                                                            ₩u,G.
                                                                                                                                                                        Mus musculus
                                                                                                                                                                                      Mus musculus.
                                                                                                                           (bases
                                                                                       bases 1 to 2686)
and Dorn,G.W. I
e RablA, member c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.24e-74
860.00
84.39%
84.39%
97.07%
 231 Bethesda
                                                                                                                                                                                                                                                                                                                                810
                                                                                                                                       Chordata;
Rodentia;
                                                                                            of II
                                                                                             RAS
Internal Medicine, Ui
a Avenue, Cincinnati,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (1-1444)
                                                                                                                                                                                                                                                                   2686 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
                                                                                             oncogene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative:
                                                                                                                                       Craniata; Vertebrata;
Sciurognathi; Muridae;
                                                                                                                                                                                                                                                  protein RABIA mRNA,
                                                                                             family mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1444
173
0
0
32
 University of i, OH 45267-0590,
                                                                                                                                           Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -GluSerPheAsn
                                                                                                                                                                                                                                                    complete
                                                                                                                                                        Euteleostomi;
                                                                                                                                                                                                                                                                    ROD 13-FEB-2000
                                                                                                                                            Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                         168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     64
```

cds.

Mus

149 ThralaGlyGlyAlaGluLySSerAsnValLySGLGSLTSETTTPTOVALLYSGLASGLASETT	Cy o' Leuval Lyashlys CyshspleuthTinLiys Lysval valasplyyTinTTnrAlalys 108	209 AAGCTTACAGATATGGGACACAGCAGGCAGGAAAGATTTCGAACAATCACTTCCAGTTAQ 209 AAGCTACAGATATGGGACACAGCAGCAGGCAGGAAAGATTTCGAACAATCACTTCCAGTTAQ 65		Score: 860.00   Matches: 173	DS  /Ob_grit_sim=_mus_cutus  /db_xref="taxon:10090" 29646 29646 29646 29646 29646 29646 29646 29646 29646 29646 29646 29646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20646 20	FEATURES Location/Qualifiers Source 1. 2886
Qy 65	Db 61 GGGTTGGAAAGTCTTGCCTTAGGTTTGCGAATGAACGAAC	DB: 03.41% Mismactches: 2 DB: 1004 Similarity: 83.41% Mismactches: 2 DB: 1004 Gaps: 32 DB: 1004 Similarity: 95.82% Indels: 32 DB: 1005 Gaps: 1  US-09-820-003A-2 (1-173) x RATRASA (1-618)  Oy 1 MetSerSerMetAsnProGluTyrAspTyrLeuPheLysLeuLeuLeuIleGlyAspSer 20	KOMLOEIDRYASENVNKLLVONKCDLTTKKVVI VEOSEMTWAAEIKKRWGPGATAGGAEKSNVKIC 194 a 124 c 160 g 140 t Unreported.  Cores: 5.34e-74 Length: 849.00 Matches:	0	VERSION J02991 GI:206552  KEYWORDS ras oncogene.  SOURCE Rat brain cDNA to mRNA, (library of D.Anderson), clone NTRABIR.  ORGANISH Rattus norvegicus Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;  Rattus.  REFERENCE 1 (bases 1 to 618)  AUTHORS Touchot, N., Chardin, P. and Tavitian, A. Four additional members of the ras gene superfamily isolated by an oligonucleotide strategy: molecular cloning of YPT-related cDNAs from a rat brain library  JOURNAL Proc. Natl. Acad. Sci. U.S.A. 84 (23), 8210-8214 (1987)  B8068563  DYMRENT DYSTA COMPENT and Computer-readable sequence for [1] kindly provided	z

```
BASE CO
                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 10
DYGORAB1
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                              Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                 Best Local Similarity:
                          Percent Similarity:
                                      Score:
                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                      COUNT
                                                                                                                                                                                                           gene
                                                                                                                                                                                        CDS
                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlyGlyGlyCysCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ThrAlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGTGGAGGCTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACAGCTGGAGGTGCGGAGAAGTCCAATGTTAAAATCCAGAGCACTCCAGTCAAGCAGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DYGORAB1
Discopyge
M38393
                                                                                                                                                                                                                                                                                                                                                                    Unpublished (1990)
Draft entry and computer-readable
by J.K.Ngsee, 10-SEP-1990.
Dept of Biological Sciences
                                                                                                                                                                                                                                                                                                                                                                                                                   1 (bases 1 to 841)
Ngsee, J.K., Elferink, L.A. and Scheller, R.H.
A family of ras-like GTP-binding proteins e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Discopyge ommata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTP-binding protein.
D.ommata electric lobe
                                                                                                                                                                                                                                                                                                                      Λq
                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes; Elasmobranchii; Squalea; Hypnosqualea; Pristiorajea; Batoidea; Torpediniformes; Narcinoidei; Narcinidae; Discopyge.
                                                                                                                                                                                                                                                                                                                                                                                                             neurons
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              M38393.1 GI:213122
                                                                                                                                                                                                                                                                                                  Dept of
Herrin
                                                                                                                                                                                                                                                                                                         Stanford University
Stanford, CA 94305-5020
Stanford, CA 94305-5020
Aftentry and computer-readable sequence
J.K.Ngsee, 10-SEP-1990
Dept of Biological Sciences
                                                                                                                                                                                                                                                                               Stanford University
Stanford, CA 94305-5020
                                                                                       269
                                                                                   /Translation="MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVD FKIRTIELDGKTIKLOIWDTAGGERFRTITSSYYRGAHGIIVYYDVTDQESFNNVKOW LQEIDRYASENVNKLLVGNKCDLJTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQ AFMTMAAEIKKRMGPGATSGGSSKSNVNIQSTPVKSSGGGCC"

154 c 194 g 224 t
                                                                                                                                                                                      /gene="o-rab1"
79. .687
                                                                                                                                      /product="GTP-binding protein"
/protein_id="AAA49234.1"
/db_xref="GI:213123"
                                                                                                                                                                     /codon_start=1
                                                                                                                                                                              /gene="o-rab1"
                                                                                                                                                                                                                    /cell_type="electromotor neuron"
/tissue_type="electric lobe"
                                                                                                                                                                                                                                       /organism="Discopyge ommata"
/db_xref="taxon:7785"
                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ommata
       9.05e-73
838.00
83.41%
81.46%
94.58%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTP-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          electromotor
      Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         đđ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein (o-rabl) mRNA,
                                                                                                                                                                                                                                                                                                                                                                                        sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         neuron,
       841
167
4
2
32
                                                                                                                                                                                                                                                                                                                                                                                                                     expressed
                                                                                                                                                                                                                                                                                                                              for [1] kindly submitted
                                                                                                                                                                                                                                                                                                                                                                                         for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDNA
                                                                                                                                                                                                                                                                                                                                                                                        [1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ៥
                                                                                                                                                                                                                                                                                                                                                                                        kindly
                                                                                                                                                                                                                                                                                                                                                                                                                     in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VRT 28-APR-1993
                                                                                                                                                                                                                                                                                                                                                                                                                     electromotor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                       REFERENCE
AUTHORS
TITLE
JOURNAL
FEATURES
                                                                                                                                                                  KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                LOCUS
DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                       RESULT 11
AR070365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                   Qγ
                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                               ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -SD
                                    Pred. No
                                            Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB:
       Best Local Similarity:
               Percent Similarity:
                          Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09-820-003A-2
                                                                                                                                                                                                                                                                     670
                                                                                                                                                                                                                                                                                         169
                                                                                                                                                                                                                                                                                                            610
                                                                                                                                                                                                                                                                                                                             149
                                                                                                                                                                                                                                                                                                                                                  550
                                                                                                                                                                                                                                                                                                                                                                                        490
                                                                                                                                                                                                                                                                                                                                                                                                                                 430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      370
                                                                                                                                                                                                                                                                                                                                                                      129
                                                                                                                                                                                                                                                                                                                                                                                                           109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                  89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GlyGlyGlyCysCys
                                                                                                                                                                                                                                                                                                          AsnValLysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LysLeuGlnIle-----
                                                                                                                                                                                                                                                                      GGTGGGGGTTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AATGTAAAACAATGGCTTCAGGAAATAGATCGTTATGCCAGTGAAAATGTTAACAAGTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TACAGAGGGGCACATGGCATCATAGTTGTGTATGATGTTACAGACCAGGAGTCGTTTAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ANACTTCANATCTGGGACACGGCTGGTCAGGAGCGGTTTCGAACAATCACGTCCAGTTAC
                                                                                                                                                                                                AR070365
Sequence 4 from p
AR070365
AR070365.1 GI:72
                                                                                                                  Patent: US 5892012-A 4 06-APR-1999;
                                                                                                                                   1 (bases 1 to 925)
Hillman, J.L., Lal, P.,
                                                                                                                                                          Unclassified.
                                                                                                                                                                  Unknown
                                                                                                                                                                              Unknown.
                                                                                                                             Rab Proteins
                                                                           198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (1-173) x
                                                                           þ
                                                                          organism="unknown"
263 c 288 g
                                                                                              Location/Qualifiers
1. .925
      5.92e-66
768.50
80.39%
76.47%
                                                                                                                                                                                                  GI:7221253
                                                                                                                                                                                                                                                                                        173
                                                                                                                                                                                                                                                                      684
                                                                                                                                                 925)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DYGORAB1
                                                                                                                                                                                                                   patent US
                                                                                                                                     Corley, N.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (1-841)
                                                                                                                                                                                                                    925 bp
s 5892012.
      Length:
Matches:
Conservative:
Mismatches:
                                                                           176
                                                                                                                                      and Shah, P.
                                                                           4
                                                                                                                                                                                                                               DNA
       925
156
8
7
                                                                                                                                                                                                                               linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -GluSerPheAsn
||||||||||
                                                                                                                                                                                                                               PAT 18-FEB-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                  108
                                                                                                                                                                                                                                                                                                                               168
                                                                                                                                                                                                                                                                                                                                                  609
                                                                                                                                                                                                                                                                                                                                                                     148
                                                                                                                                                                                                                                                                                                                                                                                         549
                                                                                                                                                                                                                                                                                                                                                                                                            128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     40
                                                                                                                                                                                                                                                                                                              669
                                                                                                                                                                                                                                                                                                                                                                                                                                 489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20
```

	ro	z		Qy 170 GlyGlyCysCys 173              Db 657 GGTGGCTGTTGC 668	Qy 150 AlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnSerGly 169 :::            :::	Qy 130 GluGlnSerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAlaThr 149       :::	Qy 110 PheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsnVal 129	Qy 90 ValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGlu 109	Qy 70 ValLysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeu 89	Qy 65	Qy 62 LeuGlnIle64	Qy 42 SerThrIleGlyValAspPheLysIleArgThrIleGluLeuAspGlyLysThrIleLys 61	Qy 22 ValG1yLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrG1uSerTyrI1e 41	Qy 2 SerSerMetAsnProGluTyrAspTyrLeuPheLysLeuLeuLeuIleGlyAspSerGly 21 ::::::	Ouery Match: 86.74% Indels: 33 DB: 6 Gaps: 2 US-09-820-003A-2 (1-173) x AR070365 (1-925)
COMMENT Clone from S. Wiemann, Molecular Genome Analysis, German Cancer COMMENT Research Center (DKFZ); Email s.wiemann@dkfz-heidelberg.de;	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Butheria; Primates; Catarrhini; Hominidae 1 (bases 1 to 1985) Disesterinoeft, A., Lauber, J., Mewes, H.W., Gassenhuber Wiemann, S.  Direct Submission	E Cds	GlyGlyCys	Oy 150 AlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnSerGly 169 :::            :::	Qy 130 GluGlnSerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAlaThr 149	Qy 110 PheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsnVal 129	Oy 90 ValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGlu 109	Oy 70 VallysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeu 89	Qy 65	Qy 62 LeuglnIle64	Qy 42 SerThrIleGlyValAspPheLysIleArgThrIleGluLeuAspGlyLysThrIleLys 61	Qy 22 ValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyrIle 41	Qy 2 SerSerMetAsnProGluTyrAspTyrLeuPheLysLeuLeuLleGlyAspSerGly 21 ::::::	6 6 -173) x AX086155 (1	Pred. No.:  1.46e-65 Length: 1985 Score: 768.50 Matches: 156 Percent Similarity: 80.39% Conservative: 8 Best Local Similarity: 86.47% Mismatches: 7 Ouer Watch: 86.74% Tidels: 33

```
BASE CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-820-003A-2 (1-173) x HSM801608 (1-1985)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No . :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       polyA_signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      polyA_site
                                                                                                                                                                                                                                                                                                                     102
                                                                                                         282
                                                                                                                                                                             222
                                                                                                                                                                                                                                                162
                                                                      70
                                                                                                                                                                                                              62
                                                                                                                                                                                                                                                                                 42
                                                                                                                                                                                                                                                                                                                                                                                        42
90 ValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGlu 109
                                                                                                                                                                                                                                                                                                                                                      22
                                                                                                                                                                                                                                                                                                                                                                                   ValGlyLysSerCysLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyrIle 41
                                                    ValLysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeu
                                                                                                       CGGGGGGCTCATGGCATCATCGTGGTGTATGACGTCACTGACCAGGAATCCTACGCCAAC
                                                                                                                                                                                                                                                                                                                  GTGGGCAAGTCATGCCTGCTGCTGCGGTTTGCTGATGACACGTACACAGAGAGCTACATC
                                                                                                                                                                            CTTCAGATCTGGGACACAGCGGGCCAGGAACGGTTCCGGACCATCACTTCCAGCTACTAC
                                                                                                                                                                                                                LeuGlnIle-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Please contact the RZPD: Ressourcenzentrum, Heubnerweg 6, 14059
Berlin-Charlottenburg, GERMANY; Email: clone@rzpd.de Further
information about the clone and the sequencing project is available
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sequenced by Qiagen (Hilden/Germany) within the cDNA sequencing consortium of the German Genome Project.

This clone (DKP2p5641172) is available at the RZPD in Berlin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             at http://mips.gsf.de/proj/cDNA/.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /db_xref="SPTREMBL:Q9H0U4"
/translation="MMPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTIGVD
FKIRTIELDGKTIKLQIMDTAGGERFRTITSSYYRGAHGIIVVYDVTDQESYANVKQW
LQEIDRYASEAVNKLLYGNKSDLTTKKVVDNTTAKEFADSLGIPFLETSAKNATNVEQ
LQEIDRYASEAVNKLLYGNKSDLTKKVVDNTTAKEFADSLGIPFLETSAKNATNVEQ
AFMTMAAEIKKRMGPGAASGGERPNLKIDSTPVKPAGGGCC"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene="DKFZp564I172"
48. .653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="DKFZp564I172"
1901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /product="hypothetical protein"
/protein_id="CAB66570.1"
/db_xref="GI:12052796"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /tissue_type="brain"
/clone_lib="564 (synonym: hfi
X1-2blue; sites NotI + SalI"
/dev_stage="fetal"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="DKF2p564I172"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="strong similarity to Rabl"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene="DKFZp564I172"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /map="11q13"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone="DKFZp564I172"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.46e-65
768.50
80.39%
76.47%
86.74%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C
                                                                                                                                       ------GluSerPheAsnAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    φ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       hfbr2). Vector pAMP1; host
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1985
156
8
7
33
                                    401
                                                                      89
                                                                                                     341
                                                                                                                                         69
                                                                                                                                                                            281
                                                                                                                                                                                                                                             221
                                                                                                                                                                                                            64
```

δõ 밁 δÃ В οy

밁 δÃ 멍

õ

δÃ

В Ω

В

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RNRAB1B
LOCUS
 US-09-820-003A-2 (1-173) x RNRAB1B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                      Best Local Similarity:
Query Match:
                                                               Percent Similarity:
                                                                            Score:
                                                                                         Pred. No.:
                                                                                                    Alignment Scores:
                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 14
                                                                                                                                                                                                                                                                                                                                                         JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlyGlyCysCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTGGGGGC---GAGCGGCCCAATCTCAAGATCGACAGCACCCCTGTAAAGCCCGGCTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsnVal 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGTGGCTGTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TTTGCAGACTCTCTGGGGCATCCCCTTCTTGGAGACGAGCGCCAAGAATGCCAATGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              protein.
Rattus sp.
Rattus sp.
                                                                                                                                                                                                                                                                                                                                                                                  related protein Nucleic Acids Res. 17 (4),
                                                                                                                                                                                                                                                                                                                                                                                                                         Vielh, E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (03-JAN-1989) Touchot N., Inserm U 248, Faculte de Medecine Lariboisiere St Louis, 10 Avenue de Verdun, 75010 Pa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota;
Mammalia; I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rat cDNA for ras-related rablB protein.
X13905
X13905.1 GI:57005
GTP-binding protein; rablB gene; rablB protein;
                                                                                                                                                                                                                                                                                                                                                                        89160341
                                                                                                                                                                                                                                                                                                                                                                                                         Nucleotide sequence of a rat cDNA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 France
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Touchot, N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RNRAB1B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (bases 1 to 654)
                                                                                                                                          174
                                                                                                                                                                                                                                                                                                                                                                                                                                     (bases 1 to 654)
                                                                                                                                                                                                                                                                                                                                              kindly reviewed (13-MAR-1989) by Touchot A.
                                                                                                                                          a
                                                                                                                                                   /db_xref="SWISS-PROT:P10536"
/translation="MNPEYDYLFKLINGSGYGKSCLLLRFADDTYTESYISTIGVD
FKIRTIELDGKTIKLQIWDTAGGEFKTLTGSTYRGAHGIIVVYDVTDQESYANVKQW
LQEIDRYASENVNKLLYGNKSDLTTKKVVDNTTAKEFADSLGVPFLETSAKNATNVEQ
AFMTMAAEIKKRMGPGAASGGERPNLKIDSTPVKSASGGCC"
                                                                                                                                                                                                                                                                   /organism="Rattus sp."
/db_xref="taxon:10118"
/tissue_type="brain"
12. .617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eutheria;
                                                                                                                                                                                                                 /protein_id="CAA32105.1"
/db_xref="GI:57006"
                                                                                                                                                                                                                                             /codon_start=
                                                                                                                                                                                                                                                       /note="rab1B protein (AA 1 - 201)"
                                                                                                                                                                                                                                                                                                                                                                                                                        Touchot, N.,
                                                                                                                                                                                                                                                                                                                                 ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               173
                           1.51e-65
762.50
79.90%
75.49%
86.06%
                                                                                                                                       O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chordata;
Rodentia;
                                                                                                                                        184 g
                                                                                                                                                                                                                                                                                                                                                                                                                        Zahraoui, A. and Tavitian, A
(1-654)
                                                               Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                    1770
                                       Indels:
                                                  Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae;
                                                                                                                                           140
                                                                                                                                                                                                                                                                                                                                                                                  (1989)
                                                                                                                                                                                                                                                                                                                                                                                                            rab1B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mRNA
                          654
154
8
33
                                                                                                                                                                                                                                                                                                                                                                                                            encoding
                                                                                                                                                                                                                                                                                                                                                                                                            ធ
                                                                                                                                                                                                                                                                                                                                                                                                                                                              75010 Paris,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ROD 12-SEP-1993
                                                                                                                                                                                                                                                                                                                                                                                                               rab1-YPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              461
```

```
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 15
AC106368/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66 GTGGGCAAGTCATGCCTGCTTCTGCGGTTTGCTGATGACACGTACACAGAGAGCTACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22 ValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyrIle
Muzny,D.M., Adams,C., Adio-Oduola,B., Ali-osman,F.R., Allen,C., Alsbrooks,S.L., Amaratunge,H.C., Ae,J.R., Ayele,M., Banks,T., Barbarla,J., Benton,J., Bimage,K., Blankenburg,K., Bonnin,D., Bouck,J., Bowle,S., Bireva,M., Brown,E., Brown, M. Bryant,N.P., Bundy,C., Burch,P., Burkett,C., Burchl,K.L., Byrd,N.C., Carron,T.F., Carter,M., Cavazos,S.R., Chacko,I., Chavez,D., Chen,G., Chen,R., Chen,Z., Chowdhry,I., Christopoulos,C., Chen,G., Cox,C., Coyle,M.D., Dathorne,S.R., David,R., David,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ν
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GlyGlyCysCys 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTGGGGGT----GAACGGCCCAACCTGAAGATCGACAGCACTCCTGTGAAATCTGCTAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnSerGly 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GluGlnSerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAlaThr 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsnVal 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGlu 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGAAACAGTGGCTGCAGGAAATAGATCGCTACGCCAGTGAGAATGTCAATAAACTGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ValLysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGGGTGCTCATGGCATCATTGTGGTGTATGACGTCACTGACCAGGAATCCTACGCTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTACAGATTTGGGACACAGCTGGTCAGGAACGGTTCAGGACAGTCACTTCCAGCTACTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGCACCATTGGGGTGGACTTCAAGATTCGAACCATTGAACTGGATGGCAAAACCATCAAA 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerThrIleGlyValAspPheLysIleArgThrIleGluLeuAspGlyLysThrIleLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGTGGCTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAACAGGCATTCATGACAATGGCTGCAGAGATCAAAAAACGGATGGGGCCCAGGAGCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTTGCAGACTCTCTGGGTGTCCCCTTCCTGGAGACAAGTGCCAAGAATGCCAACGATGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTAGGCAACAAGAGTGACCTCACCACCAAGAAGGTCGTGGACAATACCACAGCCAAGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -------GluSerPheAsnAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Norway rat.
Rattus norvegicus
Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC106368 161955 bp DNA Rattus norvegicus clone CH230-117N16, ***
****, 71 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC106368
AC106368.2 GI:21731746
HTG; HTGS_PHASE1.
                                                                                                                                                                                                                                                                                                                                                                                                                             Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                      (bases 1 to 161955)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PHASE1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    614
                                                                                                                                                                                                                                                                                                                                                                                                                       Chordata; Craniata; Vertebrata; Euteleostomi; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linear HTG 13-JUL-2002
SEQUENCING IN PROGRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21
```

δõ

Š

5

δÃ

δõ

```
Gorrell, J.H., Guevara, W., Gunaratne, P., Haie, S., Hamilton, K., Harris, C., Harris, K., Hart, M., Havlak, P., Hawes, A., Hernandez, J., Hodgson, A., Hogues, M., Holloway, C., Hollins, B., Hernandez, O., Hodgson, A., Hogues, M., Holloway, C., Hollins, B., Homsi, F., Howard, S., Huber, J., Hulyk, S., Hume, J., Jackson, L.E., Jacobson, B., Jia, Y., Johnson, R., Jolivet, S., Joudah, S., Karlson, E., Kelly, S., Khan, U., King, L., Korvah, J., Kovar, C., Kratovic, J., Kureshi, A., Landry, N., Leal, B., Lewis, L.C., Lewis, L. Ki, J., Li, Y., Lichtarge, O., Lieu, C., Liu, J., Liu, W., Loulseged, H., Li, J., Liu, Y., Liu, Y., Lucher, A., Lucher, R., Luna, R., Ma, J., Waheshwari, M., Mapua, P., Martin, R., Martindale, A., Martinez, E., Massey, E., Mawhiney, E., McLeod, M.P., Meador, M., Mei, G., Metzker, M., Mainer, G., Miner, G., Mitchell, T., Mohabbat, K., Morgan, M., Worris, S., Moser, M., Napua, P., Martin, R., Martindale, A., Mayten, N., Nguyen, N., Nguy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished
2 (hacco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 (bases 1 to 161955)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Direct Submission
Submitted (13-UH)-2002) Human Genome Sequencing
of Molecular and Human Genetics, Baylor College
Baylor Plaza, Houston, TX 77030, USA
On Jul 11, 2002 this sequence version replaced 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Worley, K.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Center project name: GKTO
Center project name: GKTO
Center clone name: CH230-117N16
Center clone name: CH230-117N16
Sequencing vector: Plasmid;
Chemistry: Dye-terminator Big Dye: 100% of reads
Assembly program: Phrap; version 0.990329
Consensus quality: 102133 bases at least Q40
Consensus quality: 108299 bases at least Q30
Consensus quality: 114299 bases at least Q20
                                       NOTE: Estimated insert size may differ from sequence length (see http://www.hgsc.bcm.tmc.redu/docs/Genbank_draft_data.html).
NOTE: This is a 'working draft' sequence. It currently consists of 71 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be as soon as it is available and the accession number will
as soon as it
be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Center: Baylor College of Medicine
Center code: BCM
Web site: http://www.hgsc.bcm.tmc.e
Contact: hgsc-help@bcm.tmc.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Genome Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Center, Department of Medicine, One
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Center, Department of Medicine, One
```

REFERENCE AUTHORS TITLE JOURNAL

COMMENT

1109 1209 2486 2586 3732

1108: contig of 1108 bp in le 1208: gap of unknown length 2485: contig of 1277 bp in le 2585: gap of unknown length 3731: contig of 1146 bp in le 3831: gap of unknown length

length length

length

TITLE
JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL

```
length
                                                                                                                                 length
                                                                                                                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length
  length
                                                                              length
                                                                                                                                                           length
                                                                                                                                                                                       length
                                                                                                                                                                                                              length
                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alignment
Pred. No.:
Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query
DB:
                                                               Ωy
             Š
                                        밁
                                                                                           В
                                                                                                                  Ş
                                                                                                                                               밁
                                                                                                                                                                      δÃ
                                                                                                                                                                                                   ₽
                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                δõ
                                                                                                                                                                                                                                                                                                                                                              ₽
                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Percent Similarity:
Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-820-003A-2 (1-173) x AC106368
                                                                                                                                                                                                   160794
                                                                                                                                                                                                                                                        160854
                                                                                                                                                                                                                                                                                                            160914
                                                                                                                                                                                                                                                                                                                                                               160974
                                                                                                                                                                                                                                                                                                                                                                                                                 161034
                                                                                            160674
                                                                                                                                               160734
               130
                                                                                                                                                                                                                                                                                                                                     42
                                                                                                                     90
                                                                                                                                                                           70
                                                                                                                                                                                                                              65
                                                                                                                                                                                                                                                                                 62
                                                                                                                                                                                                                                                                                                                                                                                        22
                                                                                                                                                                                                                                                                                                                                                                                                                                           N
                                                                                                                                                                                                                                                  GluGlnSerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAlaThr
                                                                                           PheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsnVal
                                                                                                                                                              ValLysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeu
                                         TTTGCAGACTCTCTGGGTGTCCCCTTCCTGGAGACAAGTGCCAAGAATGCCACCAATGTT
                                                                                                                                               GTGAAACAGTGGCTGCAGGAAATAGATCGCTACGCCAGTGAGAATGTCAATAAACTGCTG
                                                                                                                                                                                                  CGGGGTGCTCATGGCATCATTGTGGTGTATGACGTCACTGACCAGGAATCCTACGCTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1.02e-62
762.50
79.90%
75.49%
86.06%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    84818:
86948:
86948:
89201:
89203:
92038:
92138:
92148:
95148:
98166:
98166:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 64431:
66237:
66337:
66337:
69383:
69483:
71719:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   contig
gap of
contig
contig
gap of
contig
co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (1-161955)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of 2299
unknown
of 2321
unknown
of 3144
unknown
of 3165
unknown
of 2030
unknown
of 2737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   unknown
of 2759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    unknown
of 1806
unknown
of 3046
unknown
of 2236
unknown
of 2236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         bp in length bp in length bp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length
bp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length
bp in l
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length
bp in length
length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length
bp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length
bp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length
bp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
bp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                            GluSerPheAsnAsn
                                        160555
                                                                  129
                                                                                                                      109
                                                                                                                                                160675
                                                                                                                                                                            89
                                                                                                                                                                                                     160735
                                                                                                                                                                                                                               69
                                                                                                                                                                                                                                                        160795
                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                       41
                                                                                             160615
                                                                                                                                                                                                                                                                                  64
                                                                                                                                                                                                                                                                                                            160855
                                                                                                                                                                                                                                                                                                                                                               160915
                                                                                                                                                                                                                                                                                                                                                                                                                  160975
```

unknown of 1233 unknown of 1155

gap of contig

unknown
of 1418
unknown
of 1143
unknown
of 1582

bp in length bp in length length bp in length

gap o conti gap o conti gap o conti

bp in l

gap o conti gap o conti gap

length
bp in 1
length
bp in 1
length
bp in 1
length
bp in 1
length

gap o conti gap o conti gap o conti gap o conti gap o conti

unknown of 1583

length
bp in ]

14990 15090 16216 16316 17813 17913 19393 19493 19493

gap of contic contic gap of co

unknown
of 1039
unknown
of 1475
of 1475
of 1476
of 1126
unknown
of 1126
unknown
of 1126
unknown
of 1126
unknown
of 11497
of 1497
of 1497
of 1497
of 1086
unknown
of 1086
unknown
of 1086
unknown
of 1086

bp in l length bp in l

5080: 5180: 6572: 6672: 8117: 8217: 9450: 9450: 10589: 10689: 10589: 112382: 12382: 133857:

gap o conti gap o conti

unknown of 1233

length bp in l

gap o conti gap o conti gap o conti

bp in to in the

length
bp in l
length
bp in l

bp in l

þ length

gap of contig

of 1249 unknown of 1392 unknown of 1445

length bp in

bp in length bp in

23294 23297 23397 25553 25553 25553 27071 27171 28114 28996 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429 31429

gap o conti

unknown
of 1768
unknown
of 1247
unknown
of 1854
unknown
of 1249
unknown
of 1561

bp in l length bp in l length bp in l

contig gap of gap of gap of gap of contig gap of

length bp in l length bp in l

length
bp in l
length
bp in l

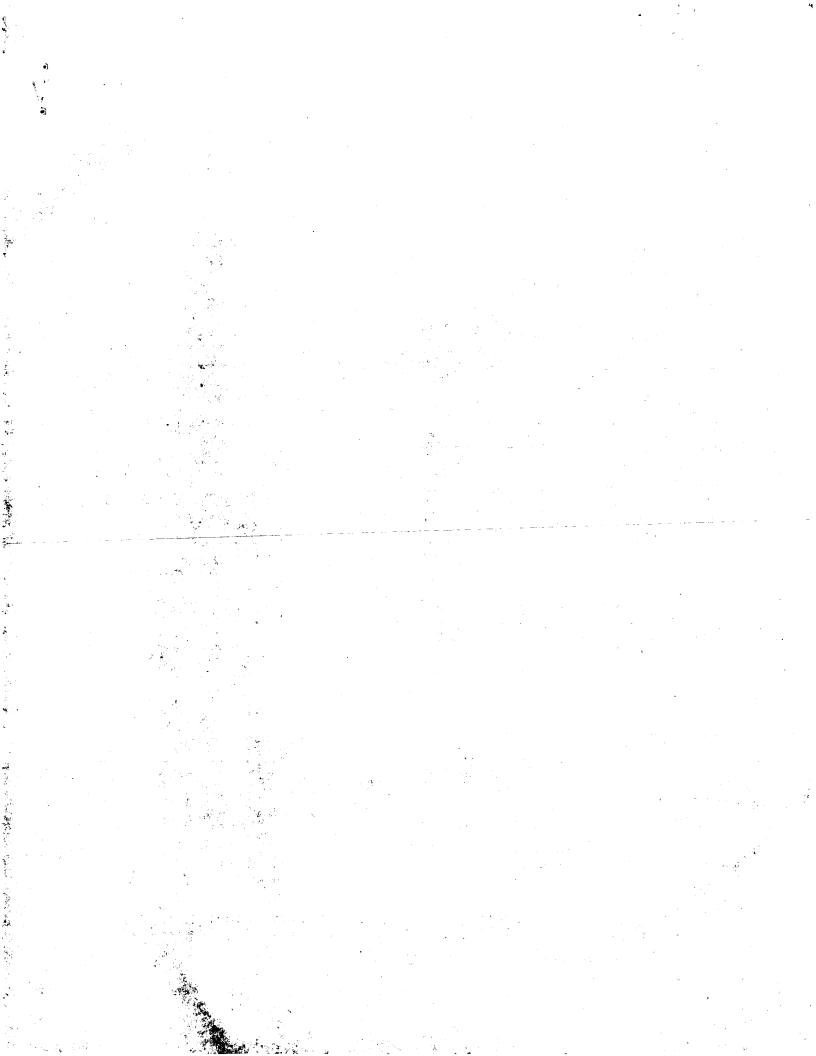
unknown
of 2690
unknown
of 1667
unknown
of 1513
unknown
of 1513
unknown
of 2167
unknown
of 2167
unknown
of 217
unknown
of 1197
unknown
of 1197

bp in length bp in length length length bp in length

Db 160554 GAACAGGCATTCATGACAATGGCTGCAGAGATCAAAAAACGGATGGGGCCAGGAGCAGCA 160495

Qy 170 GlyGlyCysCys 173 |||||||||| || Db 160437 GGTGGCTGCTGC 160426

Search completed: November 17, 2002, 13:58:04 Job time : 2672 secs



Res

SUMMARIES

```
Command line parameters:

-MODEL-frame+_p2n.model -DEV-x1h
-MODEL-frame+_p2n.model -DEV-x1h
-C-_cgn2_1_1GEFFC_spool/US09820003/runat_13112002_134616_3164/app_query.fasta_1.327
-DB-N_Geneseq_101002 -QFMT=f6stap -SUFFIX=rrg -MINMATCH=0.1 -LOOPCL=0
-LOOPEXT=0 -UNITS=bits -START=1 -END=-1 -MATRIX=blosum62 -TRANS=human40.cdi
-LIST=45 -DOCALIGN=200 -THR_SCORE=pct -THR_MAX=100 -THR_MIN=0 -ALIGN=15
-MODE-LOCAL -OUTFMT=pto -NORM-ext -HEAPSIZE=500 -MINLEN=0 -MAXLEN=200000000
-USER-US0982003_eCGN_1_1_125_8*runat_13112002_134616_3164 -NCFU=6 -ICFU=3
-NO_XLPXY -NO_MAAP_-LARGEQUERY -NG_SCORES=0 -WAIT -LONGLOG -DEV_TIMEOUT=10
-WARN_TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6 -FGAPEXT=7
-YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Run
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              seq
N_Geneseq_101002:*

| SIDS2/gcgdata/genesseg/genesegn-embl/NA1980.DAT:*
| SIDS2/gcgdata/genesseg/genesegn-embl/NA1981.DAT:*
| SIDS2/gcgdata/genesseg/genesegn-embl/NA1981.DAT:*
| SIDS2/gcgdata/genesseg/genesegn-embl/NA1983.DAT:*
| SIDS2/gcgdata/genesseg/genesegn-embl/NA1983.DAT:*
| SIDS2/gcgdata/genesseg/genesegn-embl/NA1985.DAT:*
| SIDS2/gcgdata/geneseg/genesegn-embl/NA1995.DAT:*
| SIDS2/gcgdata/geneseg/genesegn-embl/NA2001A.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-820-003A-2
886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2185239 seqs, 1125999159 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Xgapop 10.0 , Xgapext 0.5
Ygapop 10.0 , Ygapext 0.5
Fgapop 6.0 , Fgapext 7.0
Delop 6.0 , Delext 7.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            November 17, 2002, 13:04:33; Search time 254 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MSSMNPEYDYLFKLLLIGDS.....EKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (without alignments)
1533.841 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4370478
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

sult	Score	Query Match	Length	DB	ID	Description
	80	97.1	72	24	397	CD.
ν	m		2	21	8	secr
ω	68.	86.7	2	20	ω	Rak
4	768.5		939	21	166	n brea
տ	68.	6	9	22	N	æ
6	68.	6	4	22	345	<b>5</b>
7	3	Ñ	1965	22	466	
8	83	•	9	23	æ	phila
9	657.5		1202	21	AAF14053	a3
10	σ.	72.1	959	21	AAC33987	Arabidopsis
11	633		w	21	AAC35200	Arabidopsis
12	624	0	1193	23	AAS83860	DNA encoding
13	19	9	777	21	AAC42684	Arabidopsis
14	619.5		881	24	76	Arabidopsis
15	61	9	666	21	6	Arabidopsis
16	612	9	932	21	27	Arabidopsis
17	9	7	607	22	AAH87926	Peppermint plant
18	æ	65.5	594	21	58	ro.
19	7	64.3	1380	21	AAF07578	Fusarium venenatum
20	N	9.	5019	23	86	
21	460		749	21	91	C
22	452	51.0	615	22	ААН87928	Peppermint plant
23	444	0	911	21	AAC38429	. 5
24	4	9	0	21	AAC34080	bidops
25		9	1203	21	AAC43685	mays
26	43	. 8	1129	21	AAC44482	Zea mays DNA
27	29	. 8	705	21	AAC49208	Arabidopsis
22	Ñ	48.4	1023	12	14	Arabidopsis
29	428.5	48.4	1025	21	34	Arabidopsis
30	419	47.3	9	22	916	Human rab8 homolo
3 2	417	47.1	2411	24		
) (L	4.1.4	46.7	σ		STC/	Ö
	414	40.7	4.0	2 6	000	_
n d	7 1 4	46.	2497	, i	1000004	_
30	414		49	2 !	AAS60895	Human cancer
37	414	46.7	2497	23	œ١	
38	414		4	23	8	_
39	414		3077	22	AAH13912	Human cDNA sequenc
40	413	46.6	866	22	AAH04301	
41	408	46.0	2247	23	ABL29661	
42	405	45.7	492	21	AAC38136	ž
43	405	45.7	559	21	AAC4411	
44	0	45.5	716	21	AAA40104	Human Rab10 cDNA
45	ω.	45.5	861	21	AAA40108	Rab10

o

O

## ALIGNMENT

Œ	×	ŊΤ	X	AC	×	Ħ	ABK	Z ES
Human cDNA differentially expressed in granulo		14-AUG-2002 (first entry)		ABK83978;		ABK83978 standard; cDNA; 723 BP.	ABK83978	KESULT L
<u>2</u>								
و								
ranulo								

ocytic cells #549

XX

KW Human; ss; granulocytic cell; DNA chip; bacterial infection;

KW viral infection; parasitic infection; protozoal infection;

KW fungal infection; sterile inflammatory disease; psoriasis;

KW rheumatoid arthritis; glomerulonephritis; asthma; thrombosis;

KW cardiac reperfusion injury; renal reperfusion injury; ARDS;

KW dult respiratory distress syndrome; inflammatory bowel disease;

KW Crohn's disease; ulcerative colitis; periodontal disease;

KW granulocyte activation; chronic inflammation; allergy.

```
CC GC, where differential expression of Gs is indicative of GcA. Also included are modulating (M2) GA by contacting GC with an agent CC GC where differential expression of Gs is indicative of GGA. CC that alters the expression of at least one gene in Gs; (2) screening (M3) CC for an agent capable of modulating GCA or an inflammation (especially CC chronic) in a tissue, an allergic response in a subject, exposure of a CC subject to a pathogen or sterile inflammatory disease using the CC gene expression profile; (3) detecting (M4) an inflammation; (especially CC chronic) in a tissue, an allergic response in a subject, exposure of a CC subject to a pathogen or sterile inflammatory disease, by detecting the CC level of expression of the gene is indicative of inflammation; (M5) an inflammation (especially chronic) or in a tissue, an allergic response in a subject, exposure of a subject to a pathogen or sterile inflammatory disease, by contacting a tissue having conform Gs in the tissue. M1 is useful for detecting a tissue having conform Gs in the tissue. M1 is useful for detecting a tissue having conformation with an agent that modulates the expression of gene(s) from Gs in the tissue. M1 is useful for detecting GCA; M2 is useful for creening an agent capable of modulating GCA; M3 is useful for screening an agent capable of modulating GCA; M2 is useful for creening an inflammation (especially chronic) in a tissue, an allergic creperfusion injury, ARDS, adult respiratory distress syndrome, inflammatory bowel disease, Crohn's disease, ulcerative colitis, cc parasitic infection, protozoal infection, fungal infection and M5 is useful for treating one of the above conditions. The present cof the printed specification, but was obtained in electronic
                                                                     Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                   Query Match:
DB:
 US-09-820-003A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1; SEQ ID No 549; 114pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Detecting granulocyte activation by detecting differential expression of genes associated with granulocyte activation, which serves as diagnostic markers that is useful for monitoring disease states and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Beazer-Barclay Y, Weissman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               03-OCT-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-OCT-2001; 2001WO-US30821.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11-APR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA chip analysis as given in the specification, and comparing the expression level to an expression level in an unactivated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200228999-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo
                                                                                                                                                                                   Sequence 723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (GENE-) GENE LOGIC INC
                                                                                                                                                                                                                      ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                invention relates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          toxicity
                                                                                                                                                                                                                                           printed specification, but was obtained in electronic directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               by detecting
 (1-173)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-237189P
                                                                                                                                                                                     BP;
                                                                                                                                                                                   225 A; 142
                                4.33e-89
860.00
84.39%
84.39%
97.07%
24
 ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the level of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             to detecting (M1) granulocyte (GC) activation
 ABK83978
                                                                                                                                                                                   c;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         , MS
                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     English
(1-723)
                                                  Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         expression of gene(s)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Yamaga
                                                                                                                                                                                   176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ś
                                                                                                                                                                                   H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Vockley
                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (Gs) identified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             уď
```

```
밁
밁
                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                   antidiabetic; antiinflammatory; antiulcer; vulnerary; anticonvulsant;
antibacterial; antifungal; antiparasitic; cardiant; gene therapy;
cancer; immune disorder; cardiovascular disorder; wound healing;
                   26-MAR-1999;
17-DEC-1999;
                                                                                                                                                                  nootropic;
                                                                                                                                                                          Human;
                                               22-MAR-2000;
                                                                                                                          neurological disease;
                                                                                                                                                                                                                                                       AAC60009
                                                                                                        Homo sapiens.
                                                                                                                                                                                                                26-JAN-2001
                                                                                                                                                                                                                                                                                             651
                                                                                                                                                                                                                                                                                                                                   591
                                                                                                                                                                                                                                                                                                                                                                         531
                                                                                                                                                                                                                                                                                                                                                                                                               471
                                                                                                                                                                                                                                                                                                                                                                                                                                                     411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  111
                                                                                                                                                                                                                                                                                                                169
                                                                                                                                                                                                                                                                                                                                                    149
                                                                                                                                                                                                                                                                                                                                                                                           129
                                                                                                                                                                                                                                                                                                                                                                                                                                 109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21
                                                                                                                                                                                                                                                                                                                                 GlyGlyGlyCysCys 173
                                                                                                                                                                                                                                                                                                                                                                                                                      GluPheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAláThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                              LeuValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TACAGAGGAGCCCATGGCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAAT
                                                                                                                                                                                                                                                                                                                                                                                                              GAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTGGTAGGGAACAAATGTGATCTGACCACAAAGAAAGTAGTAGACTACACAACAGCGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AATGTTAAACAGTGGCTGCAGGAAATAGATCGTTATGCCAGTGAAAATGTCAACAAATTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AsnValLysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LysLeuGlnIle-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATCAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGCTTCAAATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACCTCCAGTTAT
                                                                                                                                                                          secreted protein; diagnosis;
                                                                                                                                                                                                                                                       standard;
                                                                                                                                                                  neuroprotective;
                                                                                                                                                                                                               (first entry)
                                                2000WO-US07535
                  99US-0126511.
99US-0172413.
                                                                                                                                                                                            protein gene 44
                                                                                                                                                                                                                                                       cDNA;
                                                                                                                           infectious
                                                                                                                      natory; authors,

1; antiparastic; cardiant; gene tnerapy,

cardiovascular disorder; wound healing;

cardiovascular disorder; identification;
                                                                                                                                                                                                                                                       2528
                                                                                                                                                                 agnosis; cytostatic; immunosuppressive;
antiviral; antiallergic; hepatotropic;
                                                                                                                                                                                             SEQ
                                                                                                                                                                                             ID NO:54.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -GluSerPheAsn
                                                                                                                                                                                                                                                                                                                                                                                           148
                                                                                                                                                                                                                                                                                                                                                                                                                                 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        110
                                                                                                                                                                                                                                                                                                                                   650
                                                                                                                                                                                                                                                                                                                                                      168
                                                                                                                                                                                                                                                                                                                                                                         590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          64
                                                                                                                             23
```

(HUMA-) HUMAN

GENOME SCI INC

```
Alignment Scores:
Pred. No.:
Score:
Score:
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-820-003A-2 (1-173) x AAC60009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABB34852 represent human secreted polypeptide sequences and proteins consologous to them, which are given in the exemplification of the present invention. Human secreted proteins have activities based on the tissues can dealts the genes are expressed in Examples of activities include: cytostatic; immunosuppressive; nootropic; neuroprotective; antiviral; cantiallers; hepatotropic; antidiabetic; antiinflammatory; anticovaries and polypeptides are useful for cardiant. The polynucleotides and polypeptides are useful for creenting, treating or ameliorating a medical condition in e.g. humans, consider the preventing treating or ameliorating a medical condition in e.g. humans, consider the polypeptides are useful for chromosome identification. They are also useful as probes for concrease or decrease storage capabilities. The polynucleotides are cusful for chromosome identification. They are also useful as probes for daignosing a disorder related to the female reproductive system, capaticularly breast and/or ovary cancer. They are also useful in the gene therapy of breast and ovarian cancer. Nucleic acids, protein, antibodies, agonists and antagonists from the present invention are useful in the cardiovascular disorders, wound healing, neurological diseases and cardiovascular disorders, wound healing, neurological diseases and cardiovascular disease. ARC5957 to ARC59565 and ARA34772 represents sequence cused in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The polynucleotide sequences given in AAC59966 to AAC60015 encode the human secreted proteins given in AAB34773 to AAB34822. AAB34823 to AAB34852 represent human secreted polypeptide sequences and proteins homologous to them, which are given in the exemplification of the present invention. Human secreted proteins have activities based on the tissue of the present 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fifty nucleic acid molecules encoding human secreted proteins, useful in the prevention, treatment and diagnosis of cancer, immune disorders, cardiovascular disorders and neurological diseases -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2528 BP; 772 A; 428 C; 545 G; 781 T; 2 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim
                                                                             508
                                                                                                                                                                                                                        448
                                                                                                                                                                                                                                                                                                                                                                  388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rosen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      41
        89
                                                                                                                                              69
                                                                                                                                                                                                                                                                                                 65
                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ۲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TACAGAGGAGCCCATGGCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAAT
                                                                                                                                                                                                                                                               ------GluSerPheAsn
LeuValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000-594639/56
)B; AAB34816.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'ws
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2.24e-88
860.00
84.39%
84.39%
97.07%
21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           425pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Komatsoulis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (1-2528)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2528
173
0
0
32
                                                                                                                                          88
                                                                                                                                                                                                                                                                                    83
                                                                                                                                                                                                                                                                                                                                                              447
                                                                     567
                                                                                                                                                                                                               507
                                                                                                                                                                                                                                                                                                                                                                                                                                       64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20
```

```
망
                                                  δÃ
                                                           Ъ
                                                                   Qy
                                                                           B
                                                                                   δÃ
                                                                                             В
                                                                                                     δõ
                                                                                                               В
 Human Rab
         28-MAY-1999
                  AAX27232;
                           AAX27232 standard; DNA; 925
                                                   169
                                           808
                                                                             889
                                                                                      129
                                                                                                       109
                                                                                                               568
                                                GlyGlyGlyCysCys 173
                                                           GGTGGAGGTTGCTGC
protein, RABP-2, coding sequence.
        (first entry)
                                           822
                           ВP
                                                            807
                                                                                     148
                                                                    168
                                                                            7.47
                                                                                              687
                                                                                                      128
                                                                                                               627
```

Rab protein; RABP-1; RABP-2; RABP-3; human; vesicle trafficking; cancer; cell differentiation; apoptosis; immunodeficiency; cell proliferation; neurodegenerative disease; myelodysplastic syndrome; wasting disease; toxin-induced disease; infection; genetic defect; diagnosis; therapy; ss sapiens.

WO9909182-A2

25-FEB-1999

17-AUG-1998; 98WO-US16983

97US-0916901.

(INCY-) INCYTE PHARM INC.

Corley Hillman Lal ٦, Shah

1999-181042/15 DB; AAY00919.

New purified human Rab proteins - used to develop products for treating e.g. AIDS, immunodeficiencies, neurodegenerative diseases, cancer, inflammation or autoimmune diseases.

29; Fig 2; 94pp; English.

RESULT 3
ANXI ANXI
XX AC ANXX
AC ANXX
AC ANXX
AC ANXX
AC BANX
AC ANXX
AC ANXX This sequence encodes a human Rab protein of the invention, designated RABP-2. The Rab proteins, RABP-1, RABP-2 and RABP-3 are involved in vesicle trafficking, cell function, and cell differentiation. The RABP collision of the provided polypeptides, DNAs and agonists can be used to prevent or treat a disorder associated with an increase in apoptosis, e.g. infectious or genetic immunodeficiencies, neurodegenerative diseases such as alzheimer's disease, Parklison's disease, anyotrophic lateral sclerosis, and cerebellar degeneration, myelodysplastic syndromes such as aplastic anaemia, ischaemic injuries such as myocardial infarction, stroke, and reperfusion injury, toxin-induced diseases such infarction, stroke, and reperfusion injury, toxin-induced diseases such as alcohol-induced liver damage, cirrhosis, and lathyriam, wasting diseases such as cachexia, viral infections, and osteoporosis. They can also be used to stimulate cell proliferation for use in transplantation or to produce cells to fight an infection or a cancer or to correct a fibrosis or Huntington's chorea. Antagonists can be used to prevent or

밁 δ 밁 δ g Ωy ф Qy 밁 γQ В γ

```
Alignment Scores:
Pred. No.:
Score:
Score:
Percent Similarity:
Best Local Similarit
Ouery Match:
DB:
RESULT 4
AAF21661
ID AAF
XX
AC AAF
                                                                                                    δÃ
                                                                                                                               밁
                                                                                                                                                   δÃ
                                                                                                                                                                                  ₽
                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                               δÃ
                                                                              밁
                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                         멍
                                                                                                                                                                                                                                                                                                                                                                Ω
                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-820-003A-2 (1-173) x AAX27232 (1-925)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         33333333333333×3
AAF21661;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        treat a disorder associated with cell proliferation e.g. cancers or inflammation, e.g. Addison's disease, adult respiratory distress syndrome, allergies, asthma, atherosclerosis, bronchitis, cholecystitus, Crohn's disease, ulcerative collitis, atopic dermatitis, dermatomyositis, diabetes mellitus, emphysema, atrophic gastritis, glomerulonephritis, gout, Graves' disease, hypereosinophilia, irritable bowel syndrome, lupus erythematosus, multiple sclerosis, myasthenia gravis, inflammation, osteoarthritis, osteoprosis, pancreatitis, polymyositis, rheumatoid arthritis, scleroderma, Sjogren's syndrome, and autoimmune thyroiditis, complications of cancer, haemodialysis, extracorporeal circulation,
                            AAF21661 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  infections and trauma.
                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                    90
                                                                                                                                                                                                                                                                                                                                                                    70
                                                                                                                                                                                                                                                                                                                                                                                                                       65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                             GlyGlyCysCys
                                                                                                                                                                                  PheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsnVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SerSerMetAsnProGluTyrAspTyrLeuPheLysLeuLeuLleGlyAspSerGly
                                                                              GGTGGCTGTTGC
                                                                                                                                                                                                                                                                                                     ValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGlu
                                                                                                                                                                                                                                                                                                                                                         ValLysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeu
                                                                                                                                  TCTGGGGGC---
                                                                                                                                                   AlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnSerGly
                                                                                                                                                                                                                                                                                        GTGGGCAACAAGAGCGACCTCACCAACAAGAAGGTGGTGGACAACACCACAGCCAAGGAG
                                                                                                                                                                                                                                                                                                                                           GTGAAGCAGTGGCTGCAGGAGATTGACCGCTATGCCAGCGAGAACGTCAATAAGCTCCTG
                                                                                                                                                                                                                                                                                                                                                                                             CGGGGGGCTCATGGCATCATCGTGGTGTATGACGTCACTGACCAGGAATCCTACGCCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                              CTTCAGATCTGGGACACAGCGGGCCAGGAACGGTTCCGGACCATCACTTCCAGCTACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LeuGlnIle-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTGGGCAAGTCATGCCTGCTGCGGTTTGCTGATGACACGTACACAGAGAGCTACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCCGCCATGAACCCCGAATATGACTACCTGTTTAAGCTGCTTTTGATTGGCGACTCAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BP;
                                                                                                                                  -GAGCGGCCCAATCTCAAGATCGACAGCACCCCTGTAAAGCCGGCTGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         198 A;
                                                                              668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1.78e-78
768.50
80.39%
76.47%
86.74%
                            DNA; 939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative: Mismatches: Indels: Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Η.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  925
156
8
7
33
                                                                                                                                                                                                                                                                                                                                                                                                                    -GluSerPheAsnAsn
                                                                                                                                                         169
                                                                                                                                                                                                                                                              129
                                                                                                                                                                                                                                                                                        479
                                                                                                                                                                                                                                                                                                                  109
                                                                                                                                                                                                                                                                                                                                           419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            41
                                                                                                                                656
                                                                                                                                                                                  599
                                                                                                                                                                                                                                                                                                                                                                    68
                                                                                                                                                                                                                                                                                                                                                                                            359
                                                                                                                                                                                                                                                                                                                                                                                                                      69
                                                                                                                                                                                                                                                                                                                                                                                                                                                299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        64
```

```
Query Match:
                                                                              Percent Similarity:
Best Local Similarity:
US-09-820-003A-2 (1-173) x AAF21661
                                                                                                                                                                                                                                                                                                   cc proteins AAB58711 - AAB59128. The DNA and protein sequences are cassociated with breast and ovarian cancer. Included in the invention are sequences AAF22032 - AAF22040 and AAB59129 which are used in the cisolation and characterisation of the DNA and protein sequences of the cisolation and characterisation of the DNA and protein sequences of the cinvention. The breast and ovarian cancer associated DNA, protein, agonist or antagonist sequences exhibit cytostatic; immunosuppressive; cc antidaponist sequences exhibit cytostatic; immunosuppressive; cc antidiabetic; antifungal; antiparasitic and cardiant activity. The contropic; neuroprotective; antiparasitic and cardiant activity. The cc antidiabetic; antifungal; antiparasitic and cardiant activity. The cc polynucleotide and protein sequences are used in the diagnosis of cancer, cc particularly breast and ovarian cancer. The nucleic acid sequences, cc particularly breast and ovarian cancer. The nucleic acid sequences, cc particularly breast and ovarian cancer. The nucleic acid sequences, cc particularly breast and ovarian cancer. The nucleic acid sequences, cc particularly sequences and treatment of immune disorders e.g. Addison's disease, cc allergies, autoimmune haemolytic anaemia, autoimmune thyroiditis, rheumatoid casthritis and ulcoration of disease, multiple sclerosis, rheumatoid casthritis and ulcoration of disease, multiple sclerosis, rheumatoid
                                                                                                                                                                                                                                              arthritis and ulcerative colitis; cardiovascular disorders such as myocardial ischaemias; wound healing; neurological diseases such a cerebral anoxia and epilepsy; and infectious diseases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New human breast and ovarian cancer associated gene sequences and the polypeptides encoded by these genes, useful in the prevention, treatment and diagnosis of cancer, immune disorders, cardiovascular disorders and neurological diseases -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nootropic; neurpprotective; antiviral; antiallergic; hepatotropic; antidiabetic; antiinflammatory; antiulcer; vulnerary; anticonvulsant; antibacterial; antifungal; antiparasitic; cardiant; immune disorder; Addison's disease; allergy; autoimmune haemolytic anaemia; autoimmune thyroiditis; diabetes mellitus; Crohn's disease; multiple sclerosis; rheumatoid arthritis; ulcerative colitis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1; Page 515; 1299pp; English.
                                                                                                                                                No
                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequences AAF21614 - AAF22031 represent DNA sequences encoding human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cardiovascular disorder; wound healing; neurological disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000-611515/58.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                breast cancer; ovarian cancer; cytostatic; immunosuppressiv
pic; neurpprotective; antiviral; antiallergic; hepatotropic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAB58758.
                                                                                                                                                                                                          939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000WO-US05881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99US-0124270.
                                                                                                                                                                                                          202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ovarian cancer associated antigen
                                        1.82e-78
768.50
80.39%
76.47%
86.74%
                                                                                                                                                                                                          A.
                                                                                                                                                                                                          264
                                                                                                                                                                                                        Ç
(1-939)
                                                                                                                                                                                                          289
                                                                              Length:
Matches:
Conservative:
Mismatches:
                                    Indels:
Gaps:
                                                                                                                                                                                                          <u>ი</u>
                                                                                                                                                                                                          180
                                                                                                                                                                                                          Τ;
                                                                                                                                                                                                        4
                                                                                                                                                                                                          other;
                                        939
156
8
7
33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   immunosuppressive;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             48.
```

DP QA

64

밁 ρ

δÃ 밁 δÃ

д 9

В δÃ

Оу Оу Оу

дь Ş 밁

```
Human; secreted protein; arthritis; Crohn's disease; sepsis; shock; ischaemia reperfusion injury; haematopoiesis; cancer; neuropathy; transgenic animal; Alzheimer's disease; parkinson's disease; burn; transperior animal; Alzheimer's disease; parkinson's disease; burn; amyotrophic lateral sclerosis; platelet disorder; thrombocytopenia; allore; osteoporosis; bone degenerative disorder; periodontal disease; qut protection; lung; liver fibrosis; immune deficiency; infection; severe combined immunodeficiency; SCID; autoimmune disorder; allergy; multiple sclerosis; rheumatoid arthritis; diabetes mellitus; astima; fertility; analgesic; pain; antigen; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           304 CGGGGGGCTCATGGCATCATCGTGGTGTATGACGTCACTGACCAGGAATCCTACGCCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  424
07-MAR-2000;
19-MAY-2000;
17-JUN-2000;
14-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            62
                                                                                                                                                                                                                                                                 cDNA encoding novel human secretory protein,
                                                                                                                                                                                                                                                                                                                                     AAS44924 standard; cDNA; 1898 BP
                                                                                                                                                                                                                                                                                                                                                                                                                           544 GAGCAGGCGTTCATGACCATGGCTGCTGAAATCAAAAAGCGGATGGGGCCTGGAGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      130 GluGlnSerPheMetThrMetAlaAlaGluIleLySLySArgMetGlyProGlyAlaThr 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       484
                                                                                                                                                                                                                                                                                        18-DEC-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                  661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       90
                                                                                                      WO200166689-A2
                                                                                                                          Homo sapiens.
                                                         05-MAR-2001; 2001WO-US04942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTTCAGATCTGGGACACAGCGGGCCAGGAACGGTTCCGGACCATCACTTCCAGCTACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LeuGloIle----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PheAlaAspSerLeuGlyIleProPheLeuGluThTSerAlaLysAsnAlaThrAsnVal 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ------GluSerPheAsnAsn
                                                                                                                                                                                                                                                                                                                                                                                  GGTGGCTGTTGC
                                                                                                                                                                                                                                                                                                                                                                                                  GlyGlyCysCys
  2000US-0519705.
2000US-0574454.
2000US-0596193.
2000US-0616847.
                                                                                                                                                                                                                                                                      Seq ID No 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     603
```

밁 δ 밁

```
xx the invention relates to novel isolated human secreted polypeptides (I) cand polypucleotides (II). (I) and (II) are useful for treating conditions such as arthritis, nephritis, crohm's disease, ischaemia-reperfusion injury, shock, sepsis, immune responses, and is call survival polypeptides (I), (II) and modulators of (II) are useful for cand remodeling. (I), (II) and modulators of (II) are useful for canding transgenic animals useful for studying the in vivo activities of coreating transgenic animals useful for studying the in vivo activities of the polypeptide as well as for studying modulators of the polypeptides. (I) induces the proliferation of neural cells and regeneration of nerve (II) induces the proliferation of neural cells and regeneration of nerve (II) induces the proliferation of neural cells and avoytrophic lateral and brain tissue and is useful for treatment of central and various the proliferation of neural cells and avoytrophic lateral (II) in addition, (I) is involved in chemotactic or chemokinetic canding regulation of haematopolesis and as such as thrombocytopenia (II) and the proliferation of haematopolesis and is useful for treating myeloid activity, regulation of home, cartilage, tendon, ligament and/or nerve (II) is also useful for collegeneration or periodontal disease. Furthermore, (I) is also useful for collegeneration or regeneration and treatment of lung or liver fibrosis, of uprotection or regeneration and treatment of lung or liver fibrosis of uprotections, autolumune disorders equalities and conditions, such as asthma or other respiratory problems. (II) affects biorhythms or citradian cycles of rhythms, or addition, (II) affects biorhythms or citradian cycles of rhythms, or animous effects, immunoglobulin like canal gesic effects or other pain reducing effects, immunoglobulin like analysis effects or other pain reducing effects, immunoglobulin like analysis effects or other pain reducing effects.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-SEP-2000; 2000US-0665363:
20-OCT-2000; 2000US-0693267:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel polypeptides and nucleic acids obtained from cDNA libraries prepared from various human tissues, for diagnosis and treatment cancer, neurological, inflammatory, and autoimmune disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; SEQ ID No 5; 107pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2001-589934/66.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Liu C,
Yang Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Asundi V, Xu C, Wehrman T, Ren F, Ma Y, Zhou P; Drmanac RT, Zhang J, Chen R, Xue AJ, Wang J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of.
```

Percent Similarity:
Best Local Similarity:
Query Match: δÃ US-09-820-003A-2 (1-173) x AAS44924 (1-1898) δÃ 밁 Pred. No.: 22 46 ValGlyLysserCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyrIle 41 4.58e-78 768.50 80.39% 76.47% 86.74% 22 Length:
Matches:
Conservative:
Mismatches:
Indels: Gaps: 1898 156 8 7 33

D

106

42 SerThrileGlyValaspPheLysIleArgThrIleGluLeuAspGlyLysThrIleLys

61

Alignment Scores:

Sequence 1898 BP; 361 A; 608

c; 537

G; 392 T; 0 other;

```
RRESULT 6
RA193459
ID AA199
XX AA194
AC AA19
XX AA19
DT 06-N
XX Huma
XX Huma
XX Huma
XX Huma
XX Homo
XX W C15s
XX W C20
XX W C5-F
C 18-M
XX T 18-M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                    Claim 1;
                                                            diagnosing disorders -
                                                                                                                                                                                                  Tang
                                                                          Isolated nucleic acids diagnosing and treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia;
                                                                                                                                          P-PSDB;
                                                                                                                                                               WPI;
                                                                                                                                                                                                                                          (HYSE-)
                                                                                                                                                                                                                                                                               28-FEB-2000;
18-MAY-2000;
                                                                                                                                                                                                                                                                                                                                         26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                                                                                                                                                                  07-SEP-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                        WO200164835-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAI93456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAI93456 standard; cDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlyGlyCysCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2001-514838/56.
DB; AAO13525.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GluGlnSerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAlaThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsnVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGGGGGGCTCATGGCATCATCGTGGTGTATGACGTCACTGACCAGGAATCCTACGCCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuGlnIle---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTGGCTGTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GAGCAGGCGTTCATGACCATGGCTGCTGAAATCAAAAAGCGGATGGGGCCCTGGAGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTGGGCAACAAGAGCGACCTCACCAACAAGAAGGTGGTGGACAACACCACAGCCAAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTCAGATCTGGGACACAGCGGGCCAGGAACGGTTCCGGACCATCACTTCCAGCTACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGCACCATCGGGGTGGACTTCAAGATCCGAACCATCGAGCTGGATGGCAAAACTATCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      polynucleotide
                                                                                                                                                                                                                                        HYSEQ INC
                    SEQ
                                                                                                                                                                                                Liu C,
                                                                                                                                                                                                                                                                               2000US-0515126
2000US-0577409
                    IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      disorders;
                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              173
                                                                                                                                                                                                  Drmanac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        654
                13516; 1399pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID
                                                                          and
g e.g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----GluSerPheAsnAsn
                                                                            d polypeptides,
                                                                                                                                                                                                  꼅
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NO 13516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ВP
                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      inflammation;
                                                                            useful for inflammation
                Listing;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SS
                                                                            preventing
n and immun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      64
```

```
밁
                   Qy
                                           В
                                                               δÃ
                                                                                        망
                                                                                                           Ω
                                                                                                                                      밁
                                                                                                                                                          Qy
                                                                                                                                                                                   밁
                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                   ρ
                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                               ρ
                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                     Вb
                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                 망
                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-820-003A-2 (1-173) x AAI93456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local S
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopolesis regulating activity, tissue growth factor activity, immunomodulatory activity and activinjinhibin activity and may be useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wlpo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           No
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   inflammation.
                     170
                                            596
                                                                   150
                                                                                         536
                                                                                                               130
                                                                                                                                       476
                                                                                                                                                             110
                                                                                                                                                                                   416
                                                                                                                                                                                                                                                                                                                                                                     176
                                                                                                                                                                                                                                                                                                                                                                                                                  116
                                                                                                                                                                                                                                 356
                                                                                                                                                                                                                                                                                                                          236
                                                                                                                                                                                                                                                                            296
                                                                                                                                                                                                        90
                                                                                                                                                                                                                                                     70
                                                                                                                                                                                                                                                                                                   65
                                                                                                                                                                                                                                                                                                                                               62
                                                                                                                                                                                                                                                                                                                                                                                          42
                                                                                                                                                                                                                                                                                                                                                                                                                                                               56
                                                                                                                                                                                                                                                                                                                                                                                                                                        22
                                                                                                                                                                                                                                                                                                                                                                                                                 ValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGlu
                                                                                                                                                                                                                                                                                                                                                                    PheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsnVal
                                                                                                                                                                                                                                          ValLysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeu
          GlyGlyCysCys
                                                        AlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnSerGly
                                                                                                                                                                                   GTGGGCAACAAGAGCGACCTCACCACCAAGAAGGTGGTGGACAACACCACAGCCAAGGAG
                                                                                                                                                                                                                                 GTGAAGCAGTGGCTGCAGGAGATTGACCGCTATGCCAGCGAGAACGTCAATAAGCTCCTG
                                                                                                                                                                                                                                                                            CGGGGGGCTCATGGCATCATCGTGGTGTATGACGTCACTGACCAGGAATCCTACGCCAAC
GGTGGCTGTTGC
                                            TCTGGGGGC---
                                                                                                                                                                                                                                                                                                                          CTTCAGATCTGGGACACAGCGGGCCAGGAACGGTTCCGGACCATCACTTCCAGCTACTAC
                                                                                                                                                                                                                                                                                                                                                LeuGlnIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B₽;
                                            GAGCGGCCCAATCTCAAGATCGACAGCACCCCTGTAAAGCCGGCTGGC
664
                     173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4.72e-78
768.50
80.39%
76.47%
86.74%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            372 A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (1-1944)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             552 G;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             H3
\.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1944
156
8
7
33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             other;
                                                                                                                                                                                                                                                                                                  -GluSerPheAsnAsn
                                                                                                                                                                                                                                                                                                                                                                     235
                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                 175
                                                                                                                                                                                                                                                                                                                                                                                                                                        41
                                                                   169
                                                                                           595
                                                                                                               149
                                                                                                                                       535
                                                                                                                                                              129
                                                                                                                                                                                     475
                                                                                                                                                                                                         109
                                                                                                                                                                                                                                 415
                                                                                                                                                                                                                                                        89
                                                                                                                                                                                                                                                                            355
                                                                                                                                                                                                                                                                                                   69
                                                                                                                                                                                                                                                                                                                          295
                                                                                                                                                                                                                                                                                                                                                                                                                                                               115
                                            652
                                                                                                                                                                                                                                                                                                                                                64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ç
```

RESULT 7 AAS34668

X	W W W W W W W W W W W W W W W W W W W
Homo sapiens.  WC200155312-A2  02-AUG-2001  17-JAN-2001  24-FEB-2000  22-FEB-2000  21-FMR-2000  21-FMR-2000  21-MR-2000  21-MR-2000  21-JUL-2000  27-JUL-2000  27-JUL-2000  21-JUL-2000  22-JUL-2000  23-JUL-2000  21-JUL-2000  23-JUL-2000  21-JUL-2000  23-JUL-2000  24-JUL-2000  25-JUL-2000  26-JUL-2000  27-JUL-2000  28-JUL-2000  28-JUL-2000  28-JUL-2000  28-JUL-2000  29	AAS34668; 17-DEC-2001 17-DEC-2001 Human DNA for Human; foetal immunomodulati cardiovascula hyperprolifer. cardiovascula acerebral isch Alzheimer s d wound healing
A2.  2001W0 - US01321  2000WS - 01190628 2000WS - 01186360 2000WS - 01186360 2000WS - 01186350 2000WS - 01186350 2000WS - 0118123 2000WS - 01198123 200WS	AAS34668 standard; DNA; 1965 BP.  AAS34668;  17-DEC-2001 (first entry)  Human DNA for a novel foetal antigen, SEQ ID No 2092.  Human; foetal tissue antigen; ds; antiinflammatory; neuropro immunomodulator; cardiovascular; cytostatic; nephrothropic; cardiovascular; autoimmune disease; rheumatoid arthritis; hyperproliferative disorder; breast neoplasm; cancer; cardiovascular disorder; breast neoplasm; cancer; cerebral ischaemia; anglogenesis; nervous system disorder; Alzheimer's disease; infection; ocular disorder; corneal infection; food additive.
	al antigen, SEQ  en; ds; antiinf; cular; cytostat; disease; rheuma r; breast neopla ardiac arrest; enesis; nervous tion; ocular dis cell proliferat;
•	), SEQ ID No 2092.  itiinflammatory; neuroprotective; ostatic; nephrothropic; rheumatoid arthritis; neoplasm; cancer; neoplasm; cancer; rest; cerebrovascular disorder; zrous system disorder; ar disorder; corneal infection; iferation; food additive.
	2092.  2092.  ry; neuroprothirothropic; rthritis; neori disorder; disorder; additive nod additiv
	oprotective; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;
	מק אק מק
26 SEP 2000 27 SEP 2000 27 SEP 2000 27 SEP 2000 29 SEP 2000 29 SEP 2000 29 SEP 2000 29 SEP 2000 20 CCT	08-SEP-2000; 08-SEP-2000; 108-SEP-2000; 112-SEP-2000; 114-SEP-2000; 114-SEP-2000; 114-SEP-2000; 114-SEP-2000; 114-SEP-2000; 114-SEP-2000; 114-SEP-2000; 114-SEP-2000; 114-SEP-2000; 114-SEP-2000; 114-SEP-2000; 114-SEP-2000; 114-SEP-2000; 114-SEP-2000; 114-SEP-2000; 114-SEP-2000; 114-SEP-2000; 115-SEP-2000; 115-SEP-2000; 115-SEP-2000;
20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 200000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 20000035-0 200000035-0 200000035-0 200000035-0 200000035-0 200000035-0 200000035-0 2000000035-0 200000035-0 200000000000000000000000000000000000	
2000US-0235836 2000US-0235836 2000US-0235836 2000US-0235836 2000US-0236363 2000US-0236363 2000US-0236363 2000US-0237039 2000US-0237039 2000US-0237039 2000US-0237039 2000US-0237039 2000US-02371221 2000US-0241785 2000US-0241785 2000US-0241786 2000US-0241786 2000US-0246477 2000US-0246477 2000US-0246477 2000US-0246617 2000US-0246617 2000US-0246617 2000US-0246617 2000US-0246617 2000US-0246617 2000US-0246617 2000US-0246617 2000US-0246617 2000US-0246617 2000US-0246617 2000US-0246617 2000US-0246617 2000US-0246617 2000US-0246617 2000US-0246617 2000US-0246617 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246528 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-0246288 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-024688 2000US-0246	2000US - 0231414 2000US - 0232080 2000US - 0232081 2000US - 02321968 2000US - 0232397 2000US - 0232398 2000US - 0232398 2000US - 0232400 2000US - 0232401 2000US - 023340 2000US - 023340 2000US - 0233063 2000US - 0233064 2000US - 0234021 2000US - 0234021
	4018789018458478

```
Best Local Similarity:
Query Match:
DB:
밁
                            δÃ
                                                                 밁
                                                                                                Ωy
                                                                                                                                                                                                                                                                                                                US-09-820-003A-2 (1-173) x AAS34668
                                                                                                                                                                                                                                                                                                       The invention relates to novel nucleic acids encoding novel human foetal antigens. The nucleic acids and proteins are used to prevent, treat (e.g. CC by gene therapy) or ameliorate a medical condition in e.g. humans, mice, cc rabbits, goats, horses, cats, dogs, chickens or sheep. They cc rabbits, goats, horses, cats, dogs, chickens or sheep. They compared to a pathological condition. The antibodies to the antigens can also be used in alleviating symptoms associated with the disorders and in clude autoimmune diseases e.g. radioimmunoassays or enzyme linked communoascorbent assays (ELISA). Disorders which are diagnosed or treated include autoimmune diseases e.g. rheumatoid arthritis.

CC cardiovascular disorders e.g. neoplasms of the breast or liver, cc cardiovascular disorders e.g. cardiac arrest, cerebrovascular disorders e.g. cardiac arrest, cerebrovascular disorders e.g. cardiac arrest, cerebrovascular disorders e.g. corneal infection. The polypeptides can also be used to aid wound healing and epithelial cell proliferation, to regenerate tissues and in chemotaxis. The polypeptides can also be used to aid wound healing and epithelial cell proliferation, to regenerate tissues and in chemotaxis. The polypeptides can also be used to aid diseases and disorders treated by the nucleic acids and comminerals, cofactors and other nutritional components. Numerous capabilities, fat content, lipid, protein, carbohydrate, vitamins, companies of diseases and disorders treated by the nucleic acids and contents are given in the specification. The present sequence is a genomic DNA fragment from a gene encoding a foetal antigen of the
                                                                                                                                                                                                                             Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-NOV-2000;
11-NOV-2000;
01-DEC-2000;
01-DEC-2000;
05-DEC-2000;
05-DEC-2000;
06-DEC-2000;
06-DEC-2000;
08-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New polynucleotides and polypeptides for diagnosing, treating, preventing or prognosing e.g. diseases or disorders of the nervous musculoskeletal, excretory, gastrointestinal, reproductive, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; SEQ ID No 2092; 642pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           respiratory systems
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rosen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ( HUMA - )
 128
                                                                                                                                                                                                                                                               ö
                                  22
                                                                    8
                                                                                                     N
                                                               GTGGGCAAGTCATGCCTGCTGCGGTTTGCTGATGACCCTTACACAGAGAGCTACATC
                ValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2001-488782/53.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HUMAN GENOME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Barash SC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0249299.
2000US-0250160.
2000US-0250391.
2000US-0251030.
2000US-0251988.
2000US-0251479.
2000US-0251856.
2000US-0251869.
2000US-0251869.
2000US-0251869.
2000US-0251989.
2000US-0251989.
2000US-0254997.
2000US-0254997.
                                                                                                                                                                      4.86e-74
733.50
78.92%
73.53%
82.79%
22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SCI INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ruben
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MS
                                                                                                                                      (1-1965)
                                                                                                                                                                    Gaps:
                                                                                                                                                                                                         Conservative: Mismatches:
                                                                                                                                                                                                                                           Length:
Matches:
                                                                                                                                                                                          Indels:
                                                                                                                                                                      1965
150
11
10
33
187
                                                                 127
```

```
RESULT 8
ABL05983
X PS X PT T X R R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R X P R 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                       New isolated nucleic a genes from Drosophila
                                                                                                                                                                                      WPI; 2001-656860/75
                                                                                                                                                                                                                                                                                                                            23-MAR-2000;
11-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABL05983;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABL05983 standard; cDNA; 1791 BP
                                                                                                                                                                                                                                    Venter
                                                                                                                                                                                                                                                                                                                                                                                                  23-MAR-2001; 2001WO-US09231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pharmaceutical;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-MAR-2002 (first entry)
                                                                                                                                                              P-PSDB; ABB61880
                                                                                                                                                                                                                                                                             (PEKE ) PE CORP NY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                27-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlyGlyCysCys 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GluGlnSerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAlaThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsnVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGlu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SerThrIleGlyValAspPheLySIleArgThrIleGluLeuAspGlyLySThrIleLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGTGGTTGTTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAGCAGGCGTTCATGACCATGGCTGCTGAGATCAAAAAGCAGATGGGGCCCCGGAGCAGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TTTGCAGACTCTTTGGGCATCCCCTTCTTGGAGACGAGTGCCAAGAATGCCACCAATGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTGGGCAACAAGAGCGACCTCACCACCAAGAAGGTGGTGGACAACACCACAGCCAAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTGAAGCAGTGGCTGCAGGAGATTGACCGCCATGCCAGCGAGAACGTCAATAAGCTCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGGGGGGCTCATGGCTTCCTCGTGGTATATGACGTCACTGACCAGGAATCCTATGCCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTTCAGATCTGGGACACGGCGGGCCAGGAACGGTTCTGGACCATCACTTCCAGCTACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LeuGlnIle-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCACCATCGGGGTGGACTTCAAGATCCAAACCATCGAGCTGGATGGCAAAACTATCAAA
                                                                                                                                                                                                                                  JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          melanogaster expressed
                                                                                                                                                                                                                                  Adams
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 developmental
                                                                                                                                                                                                                                                                                                                              2000US-191637P
2000US-0614150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene;
                                                                                                                                                                                                                                  ĭ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 676
                                                                                         e acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SS.
                                                                                                                                                                                                                                    Ľ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              biology;
                                                                                       detection reagent for detecting for elucidating cell signalling
                                                                                                                                                                                                                                  Myers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          polynucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cell signalling;
                                                                                         detecting 1000 or more signalling and cell-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -GluSerPheAsnAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          64
```

Claim 1;

SEQ

Ħ NO

12431;

21pp

+

Sequence Listing; English

interactions

8×666666666666

```
RESULT 9
AAF14053
ID AAF1
XX
AC AAF1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-820-003A-2 (1-173) x ABL05983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
Pred. No.:
Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL36176 ABL30511), expressed DNA sequences (ABL30840-ABL10847) and the encoded proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1791 BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from at ftp.wipo.int/pub/published_pct_sequences.
                                        AAF14053 standard; cDNA; 1202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (ABB57737-ABB72072)
                                                                                                                     849
                                                                                                                                                           168
                                                                                                                                                                                                 792
                                                                                                                                                                                                                                       149
                                                                                                                                                                                                                                                                               732
                                                                                                                                                                                                                                                                                                                     129
                                                                                                                                                                                                                                                                                                                                                               672
                                                                                                                                                                                                                                                                                                                                                                                                  109
                                                                                                                                                                                                                                                                                                                                                                                                                                          612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         252 ATGTCATCTGTGAATCCGGAATACGATTATCTCTTTAAGTTGCTGCTTATTGGAGACTCG 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MetSerSerMetAsnProGluTyrAspTyrLeuPheLysLeuLeuLeuIleGlyAspSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GlyValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyr 40
                                                                                                                                                         SerGlyGlyGlyCysCys 173
                                                                                                                                                                                                                                                                                                      ValGluGlnSerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAla
                                                                                                                                                                                                                                                                                                                                                             GAGTACGCCGCCCAGTTAGGCATTCCATTCCTTGAAACTTCGGCCAAGAGCGCCACCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LeuValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLys 108
                                                                                                                     ACCAAATCCGGTTGCTGC
                                                                                                                                                                                                   AGCGCCACTGAC - - - AACGCTAGCAAAGTGAAAATCGATCAAGGACGTCCAGTGGAAAAC
                                                                                                                                                                                                                                       ThrAlaGlyGlyAlaGluLysSerAsnValLysIle---GlnSerThrProValLysGln
                                                                                                                                                                                                                                                                               GTTGAGCAGGCCTTCATGACGATGGCGGCGGAGATCAAGAATCGCGTCGGGCCGCCGTCC
                                                                                                                                                                                                                                                                                                                                                                                                  GluPheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                        CTGGTTGGCAACAAGAGCGACTTGACCACCAAGAAAGTAGTCGACCACACCACAGCTGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AATGTGAAGCAGTGGCTGGAGGAGGATCGAGCGGTATGCCTGTGAGAATGTCAACAAGTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AsnValLysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TATAGGGGCGCCCATGGCATCATTGTCGTATACGATTGCACGGACCAGGAGTCTTTCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAACTGCAAATCTGGGATACTGCTGGCCAGGAGCGCTTCCGCACCATCACGTCTTCATAT 49:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATCAGCACAATCGGAGTGGATTTCAAAATCAGGACTATAGAACTCGACGGAAAGACCATT 431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IleSerThrIleGlyValAspPheLysIleArgThrIleGluLeuAspGlyLysThrIle 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGCGTTGGAAAGTCCTGTCTGTTGCGATTTGCCGATGACACATATACAGAAAGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2.6e-68
683.00
75.24%
69.42%
77.09%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           579 A; 379 C;
                                                                                                                     866
                                        ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (1-1791)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360 G; 473 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps:
                                                                                                                                                                                                                                                                                                                  148
                                                                                                                                                                                                                                                                                                                                                          731
                                                                                                                                                                                                                                                                                                                                                                                                  128
                                                                                                                                                                                                                                                                                                                                                                                                                                          671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20
                                                                                                                                                                                                                                                                          791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŝ
```

QΥ В δõ 밁 Ş 밁 Qy 밁 Qγ 망 δÃ DЪ Q 밁 ρy 밁 Ωy 밁 Š 망 QΥ

밁

γ

2 SerSerMetAsnProGluTyrAspTyrLeuPheLysLeuLeuLeuIleGlyAspSerGly

```
US-09-820-003A-2 (1-173) x AAF14053
                                                      Percent Similarity:
Best Local Similari
Query Match:
                                                                                                                                                                                                                          CC expression of genes in a first filamentous fungal (FF) cell relative to expression of the same genes in one or more second filamentous fungal (FF) cells and a substrate of expressed sequence tags (EST). The ESTs CC the FF cells and a substrate of expressed sequence tags (EST). The ESTs CC the FF cells and a substrate of expressed sequence tags (EST). The ESTs CC in a first filamentous fungal (FF) cell relative to expression of genes CC in a first filamentous fungal (FF) cell relative to expression of the global expression of genes from FF cells allows the production of the global expression of genes from FF cells allows the production of potential of the microorganisms to be improved. New genes may be constituted and gene copy number variation and stability can be constituted and gene copy number variation and stability can be constituted and gene copy number variation and stability can be constituted. The expression of genes can be vironmental stress, spore compineering. Using ESTs provides several advantages over genomic or random cDNA clones including elimination of redundancy as one spot on an array equals one gene or open reading frame, and organisation of the microorrays based on function of the gene products to facilitate microarrays based on function of the gene products to facilitate consists of the results. AAF14878 to AAF14878 represents ESTs from Aspergillus oryzae; and call spore; AAF11894 to AAF14878 represents ESTs from Aspergillus oryzae; and call spore; fically claimed in the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (NOVO)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Multiple gene expression; filamentous fungal cell; EST; expressed sequence tag; Fusarium venenatum; Aspergillus niger; Aspergillus oryzae; Trichoderma reesel; identification; recombination; culture condition; environmental stress; spore morphogenesis; metabolic pathway engineering; catabolic pathway engineering; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Monitoring differential expression of genes in filamentous uses fluorescence-labeled nucleic acids isolated from the substrate of expressed sequence tags -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Aspergillus oryzae
                                                                                                                                                                                Sequence 1202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2000-594572/56.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Berka
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22-MAR-2000; 2000WO-US07781.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200056762-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Aspergillus oryzae EST SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13-MAR-2001
                                                                                                                              No.:
                                                                       Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                88; Page 2691;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NOVO NORDISK BIOTECH INC
NOVO NORDISK AS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rey MW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9905-0273623
                                                                                                                                                                                                                  5337 represents claimed in the
                                                                                                                                                                                282 A; 294 C;
                                       1.28e-65
657.50
72.82%
66.99%
74.21%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Shuster JR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3161pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ID NO:6576
                                                                                                                                                                                                                    the
  (1-1202)
                                                                                                                                                                                282
                                                                                                                                                                                                                    present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Kauppinen
                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
                                   Gaps:
                                                                                                                                                                                <u>ი</u>
                                                                                                                                                                                344 T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S, Clausen
                                                                                                                                                                                0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     s fungal cells
cells and a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Olsen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PB;
```

```
RESULT 10
AAC33987
ID AAC33
XX AC33
XX 17-OC
DT 17-OC
DX Arab1
XX Prote
KW Prote
KW Prote
KW Prote
XX Arab1
XX EP103
XX EP103
XX EP103
XX EP103
XX 25-FE
PR 25-MA
PR 29-MA
PR 29-MA
PR 29-MA
PR 101-AP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                 ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D,
25-FEB-1999

05-MAR-1999

09-MAR-1999

23-MAR-1999

25-MAR-1999

29-MAR-1999

01-APR-1999

06-APR-1999

•08-APR-1999
                                                                                                                                                                                                        Hybridisation assay; genetic mapping; gene expression protein identification; signal transduction pathway; metabolic pathway; promoter; termination sequence; ss.
                                                                                                                       25-FEB-2000;
                                                                                                                                            06-SEP-2000.
                                                                                                                                                                                                                                                      Arabidopsis
                                                                                                                                                                                                                                                                                                                       AAC33987
                                                                                                                                                                  EP1033405-A2
                                                                                                                                                                                       Arabidopsis thaliana.
                                                                                                                                                                                                                                                                            17-OCT-2000
                                                                                                                                                                                                                                                                                                 AAC33987;
                                                                                                                                                                                                                                                                                                                                                                                                           711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                 771
                                                                                                                                                                                                                                                                                                                                                                                       170
                                                                                                                                                                                                                                                                                                                                                                                                                                                      660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22
                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCCGCAGGTGGTTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                      AlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnSerGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGAGGTGCTCATGGTATCTGTGTCGTGTATGATGTTACTGATATGGTATTCCTTCAACAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LeuGlnIle-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SerThrIleGlyValAspPheLysIleArgThrIleGluLeuAspGlyLysThrIleLys
                                                                                                                                                                                                                                                                                                                                                                                                          GCCACTGTCAACAACAAGCCGACTGTGCAGGTTGGCCAGGGCCAGGGGTGTCCAGTCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCCATCATGAACCCTGAATACGACTATCTCTTCAAGCTCCTTCTTATCGGAGATTCCGGT
                                                                                                                                                                                                                                                                                                                       standard;
                                                                                                                                                                                                                                                                                                                                                                         -GlyGlyCysCys
                                                                                                                                                                                                                                                      thaliana
                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                       2000EP-0301439
           990S-0121825.
990S-0123180.
990S-0123548.
990S-0125788.
990S-0126786.
990S-0126785.
990S-0127462.
990S-0128234.
                                                                                                                                                                                                                                                                                                                      DNA;
                                                                                                                                                                                                                                                      DNA fragment SEQ
                                                                                                                                                                                                                                                                                                                                                                                     173
                                                                                                                                                                                                                                                                                                                       959
                                                                                                                                                                                                                                                                                                                       ВP
                                                                                                                                                                                                                                                      IJ
                                                                                                                                                                                                                                                      NO:
                                                                                                                                                                                                                                                      5039.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GluSerPheAsnAsn
                                                                                                                                                                                                                                 control;
                                                                                                                                                                                                                                                                                                                                                                                                           770
                                                                                                                                                                                                                                                                                                                                                                                                                                169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   359
           16-APR-1999
21-APR-1999
21-APR-1999
23-APR-1999
23-APR-1999
23-APR-1999
30-APR-1999
30-APR-1999
06-MAY-1999
06-MAY-1999
11-MAY-1999
11-JUN-1999
11-JUN
         9908-013047

9908-013049

9908-013049

9908-013049

9908-013248

9908-013248

9908-013248

9908-013248

9908-013248

9908-013248

9908-013248

9908-013248

9908-013421

9908-013421

9908-013421

9908-013421

9908-013421

9908-013421

9908-013421

9908-013421

9908-013622

9908-013622

9908-013622

9908-013622

9908-013622

9908-013622

9908-013622

9908-013622

9908-013622

9908-013622

9908-013622

9908-013622

9908-013945

9908-013945

9908-013945

9908-013945

9908-013945

9908-013945

9908-013945

9908-013945

9908-013945

9908-013945

9908-013945

9908-013945

9908-013945

9908-013945

9908-013945

9908-014082

9908-014287

9908-014287

9908-014287

9908-014287

9908-014287

9908-014287

9908-014287

9908-014287

9908-014287

9908-014287

9908-014287

9908-014287

9908-014287

9908-014287

9908-014287

9908-014283

9908-014287

9908-014287

9908-014287

9908-014287

9908-014432
```

```
Alignment Scores:
Pred. No.:
Score:
Percent Similarity:
Best Local Similarity:
Query Match:
DB:

        Qy
        Db
        Db
        Db
        Dy

        Qy
        Db
        Db</
                                                                                                                                                                                                                                                                                     ДQ
                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                     US-09-820-003A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14 - OCT 1999
18 - OCT 1999
21 - OCT 1999
21 - OCT 1999
21 - OCT 1999
21 - OCT 1999
22 - OCT 1999
25 - OCT 1999
25 - OCT 1999
26 - OCT 1999
26 - OCT 1999
27 - OCT 1999
28 - OCT 1999
29 - OCT 1999
                                                                                            537
                   657
                                                                                                                                   477
                                                                                                                                                                         417
                                                                                                                                                                                                                                                     297
                                                                                                                                                                                                                                                                                            237
                                                                                                                                                                                                                                                                                                                                 177
                                                                                                                                                                                                            357
                                                                                                                                                   70
                                                                                                                                                                                          65
                                                                                                                                                                                                                              62
                                                                                                                                                                                                                                                                    42
                                                                                                                                                                                                                                                                                                           22
                                                                                                                                                                                                                                                                                                                                                    N
                  GludinSerPhaMetThrmetAlaAlaGluTleLysLysArgMetGlyBroGlyAlaThr
                                                      AlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnSerGly
                                                                                                                                                                                                                                                                                                                                                                     (1-173)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9908-0159329
9908-0159331
9908-0159331
9908-0159638
9908-015958
9908-0160767
9908-0160767
9908-0160767
9908-0160760
9908-0160814
9908-0160980
9908-0160980
9908-0160980
9908-0161406
9908-0161406
9908-0161406
9908-0161406
9908-0161406
9908-0161406
9908-0161406
9908-0161406
9908-0161406
9908-0161406
                                                                                                                                                                                                                                                                                                                                                                                      1.24e-63
639.00
71.08%
64.71%
72.12%
21
                                                                                                                                                                                                                                                                                                                                                                     x AAC33987
                                                                                                                                                                                                                                                                                                                                                                     (1-959)
                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                       959
132
13
25
34
                                                                       129
                                    149
                                                                                                              109
                   713
                                                        656
                                                                                             596
                                                                                                                                  89
536
                                                                                                                                                                         476
                                                                                                                                                                                        69
                                                                                                                                                                                                              416
                                                                                                                                                                                                                               64
                                                                                                                                                                                                                                                    356
                                                                                                                                                                                                                                                                                          296
                                                                                                                                                                                                                                                                                                                               236
                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                         41
                                                                                                                                                                                                                                                                                                                                              21
```

19-JUL-1999
20-JUL-1999
20-JUL-1999
21-JUL-1999
21-JUL-1999
21-JUL-1999
22-JUL-1999
23-JUL-1999
22-JUL-1999
22-JUL-1999
23-AUG-1999
22-AUG-1999
23-AUG-1999
24-AUG-1999
25-AUG-1999
27-AUG-1999

990S -0144334 990S -0144335 990S -0144332 990S -0144632 990S -014508 990S -014700 990S -014972 990S -015086 990S -015086 990S -015086 990S -015086 990S -015075 990S -015075

```
RESULT 11
AAC35200
ID AAC35200
XX ACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽
25-REB-1999
05-MAR-1999
05-MAR-1999
09-MAR-1999
23-MAR-1999
25-MAR-1999
06-APR-1999
06-APR-1999
07-APR-1999
23-APR-1999
23-APR-1999
23-APR-1999
23-APR-1999
23-APR-1999
23-APR-1999
24-MAY-1999
06-MAY-1999
07-MAY-1999
07-MAY-1999
11-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hybridisation assay; genetic mapping; gene expression protein identification; signal transduction pathway; metabolic pathway; promoter; termination sequence; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAC35200;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAC35200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCAGGCTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlyGlyCysCys 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000EP-0301439
         9908-0121825
9908-0123548
9908-0125788
9908-0126785
9908-0126785
9908-012871462
9908-012871462
9908-01287149
9908-0132484
9908-0132484
9908-0132484
9908-0132484
9908-0132484
9908-0132485
9908-0132487
9908-0132487
9908-0132487
9908-0132487
9908-0132487
9908-0132487
9908-0132553
9908-013553
9908-013553
9908-013552
9908-013552
9908-0136782
9908-0137528
9908-0137528
9908-0137528
9908-0137528
9908-0137528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9347.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       control;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            770
           בי סיטים סיטים טיטים טיטים סיטים סיטים סיטים סיטים סיטים סיטים סיטים סיטים טיטים טיטים טיטים טיטים סיטים סיט
      16-JUN-1999
18-JUN-1999
18-JUN
      9908-0139453
9908-0139454
9908-0139459
9908-0139459
9908-0139459
9908-0139461
9908-0139462
9908-0139463
9908-0139463
9908-0139463
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0140823
9908-0145224
9908-0145224
9908-0145224
9908-0145224
9908-0145224
9908-0145224
9908-0145224
9908-0145224
9908-0145223
9908-0145223
9908-0145224
9908-0145223
9908-0145224
9908-0145223
9908-0145223
9908-0145224
9908-0145223
9908-0145223
9908-0145223
9908-0145223
9908-0145223
9908-0145223
9908-0145223
9908-0145223
9908-0145223
9908-0145223
9908-0145223
9908-0145223
9908-0145223
9908-0145223
9908-0145223
9908-0145223
9908-0145223
9908-0147203
9908-0147203
9908-0147203
9908-0147203
9908-0147203
9908-0147203
9908-0147203
9908-0147203
9908-0147203
```

```
PR 13-AUG 1999 990S-0148555
PR 113-AUG 1999 990S-0148655
PR 117-AUG 1999 990S-0149455
PR 117-AUG 1999 990S-0149455
PR 20-AUG 1999 990S-0149425
PR 20-AUG 1999 990S-0149425
PR 20-AUG 1999 990S-0149425
PR 20-AUG 1999 990S-0149425
PR 23-AUG 1999 990S-0149425
PR 23-AUG 1999 990S-0149426
PR 23-AUG 1999 990S-0149426
PR 23-AUG 1999 990S-0149426
PR 23-AUG 1999 990S-0149426
PR 24-AUG 1999 990S-0149426
PR 27-AUG 1999 990S-0149426
PR 10-SEP 1999 990S-014448
PR 110-SEP 1999 990S-014448
PR 110-SEP 1999 990S-014448
PR 110-SEP 1999 990S-014448
PR 110-SEP 1999 990S-0144448
PR 110-SEP 1999 990S-0144448
PR 110-SEP 1999 990S-0144444
PR 110-COT 1999 990S-0144444
PR 110-COT 1999 990S-0149544
PR 21-COT 1999 990S-0149644
PR 21-COT 1999 9
```

. .

```
RESULT 12
AASS886/c
ID AASS88
AC AASS888
AC AASS888
DT 13-FEB
XX DNA en
XX Human;
KW Homo s
XX H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DP
DP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 172 CysCys 173
||||||
719 TGTTGT 724
                                                                                                                                                                 11-OCT-2001
               Drmanac RT,
                                               (HYSE-) HYSEQ INC
                                                                                 31-MAR-2000;
23-AUG-2000;
                                                                                                                               30-MAR-2001;
                                                                                                                                                                                                   WO200175067-A2
                                                                                                                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                                                                                Human; chromosome food supplement; r
                                                                                                                                                                                                                                                                                                                    DNA encoding novel human diagnostic protein #19664
                                                                                                                                                                                                                                                                                                                                                    13-FEB-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                        AAS83860;
                                                                                                                                                                                                                                                                                                                                                                                                                      AAS83860 standard; cDNA; 1193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                365 GCTCATGGGATCATTGTCACTTATGATGTCACAGACCTAGAGAGCTTCAACAACGTCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCTGGGACACAGCAGGCCAAGAACGTTTCAGGACAATCACTAGCAGCTACTACAGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGTGCCAAGCCACCAACGGTCCAGATCCGTGGACAGCCAGTGAACCAGCAA---TCAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ------GluSerPheAsnAsnValLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ile
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Liu
                                                                                 2000US-0540217
2000US-0649167
                                                                                                                                 2001WO-US08631
               Ç
                                                                                                                                                                                                                                                                  mapping; gene mapping; gene therapy; forensic;
medical imaging; diagnostic; genetic disorder;
               Tang
                 ΥT
                                                                                                                                                                                                                                                                    SS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   244
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The invention relates to isolated polynucleotide (I) and CC polynepstide (II) sequences. (I) is useful as hybridisation probes, CC polymerase chain reaction (PCR) primers, oligomers, and for chromosome CC and gene mapping, and in recombinant production of (II). The CPCR) primers of the polynucleotides are also used in diagnostics as expressed sequence tags CC for identifying expressed genes. (I) is useful in gene therapy techniques CC (II). (II) is useful for generating antibodies against it, detecting or CC (II). (II) is useful for generating antibodies against it, detecting or CC (II). (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating CC disorders involving aberrant protein expression or biological activity. CC The polypeptide and polynucleotide sequences have applications in CC diagnostics, forensics, gene mapping, identification of mutations cresponsible for genetic disorders or other traits to assess biodiversity and to produce other types of data and products dependent on DNA and CC diagnostics coding sequences of the invention.

CC Note: The sequence data for this patent did not appear in the printed CC specification, but was obtained in electronic format directly from WIPO CC at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-820-003A-2 (1-173) x AAS83860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess biodiversity -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 1; SEQ ID No 19664; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2001-639362/73.
P-PSDB; ABG19673.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 1193
141 LysLysArgMetGlyProGlyAlaThrAlaGlyGlyAlaGluLysSerAsnValLysIle
                                                   775
                                                                                                                                                                                                                                     812
                                                                                                                                                                                                                                                                                                                                                                                                                  883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             943
                                                                                                                                                                                                                                                                                                                           823
                                                                                                                                                                                                                                                                                                                                                                                                                                                              41
                                                                                                                                                                                                                                                                             81
                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlyValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyr
                                            ThrSerAlaLysAsnAlaThrAsnValGluGlnSerPheMetThrMetAlaAlaGluIle
                                                                                                                                     LysLeuGlnIleGluSerPheAsnAsnValLysGlnTrpLeuGlnGluIleAspArgTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGGGTTGGAAAGTCTTGCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTAC
                                                                                                                                                                                                                                                                          {\tt AlaSerGluAsnValAsnLysLeuLeuValGlyAsnLysCysAspLeuThrThrLysLys}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8.64e-62
624.00
74.57%
74.57%
70.43%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               372 A; 279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (1-1193)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               G; 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               other;
                                                                                                                                                                                                                                  . . . . . . . . . . . .
                                                                                                                                                                                                                                                                                                                         ----
    160
                                                                                                                                                                                    120
                                                                                                                                                                                                                                812
                                                                                                                                                                                                                                                                                                                                                                   80
                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             944
                                                                                                                                                                                                                                                                                                                         812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
```

Q

δÃ

맑

ρ 밁 Qy 밁

밁

Š 밁 20 뫄 δÃ 밁 δõ

```
RESULT 13
AAC4284
ID AAC42
XX AAC42
XX AAC42
XX AAC42
XX AAC42
XX AAC42
XX BY IT IT-OC
DE Arabi
XX EP103
XX EP103
XX EP103
XX EP103
XX EP103
XX AAC42
XX AAC
                           16 APR 1999
16 APR 1999
17 APR 1999
21 APR 1999
23 APR 1999
23 APR 1999
28 APR 1999
28 APR 1999
30 APR 1999
30 APR 1999
06 MAY 1999
06 MAY 1999
06 MAY 1999
11 AMAY 1999
12 AMAY 1999
13 APR 1999
14 AMAY 1999
14 AMAY 1999
17 AMAY 1999
18 AMAY 1999
19 AMAY 1999
19 AMAY 1999
10 JUN 1999
20 JUN 1999
21 AMAY 1999
21 AMAY 1999
21 AMAY 1999
22 AMAY 1999
23 JUN 1999
24 JUN 1999
25 JUN 1999
26 JUN 1999
27 AMAY 1999
28 JUN 1999
29 JUN 1999
20 JUN 1999
20 JUN 1999
21 JUN 1999
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             05-MAR-1999;
09-MAR-1999;
23-MAR-1999;
25-MAR-1999;
29-MAR-1999;
01-APR-1999;
06-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    metabolic pathway; promoter; termination sequence;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hybridisation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Arabidopsis thaliana DNA fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAC42684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GlnSerThrProValLysGlnSerGlyGlyGlyCysCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGAGCACTCCAGTCAAGCAGTCAGGTGGAGGTTGCTGC 617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sation assay; genited identification;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000EP-0301439
                           9908-0127462
9908-0128244
9908-0130077
9908-01300810
9908-0130149
9908-0131449
9908-0132487
9908-0132487
9908-0132487
9908-0132487
9908-0132487
9908-0132487
9908-0134218
9908-0134218
9908-0134219
9908-0134276
9908-0134276
9908-0134276
9908-0134276
9908-0134276
9908-0134276
9908-0134276
9908-0134276
9908-0134276
9908-0134276
9908-0134276
9908-0134276
9908-0136292
9908-0137528
9908-0137528
9908-0137528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  genetic mapping; gene expression
on; signal transduction pathway;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ВP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             control;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        656
```

																													-										-
Ali Pre Sco Per Bes Que DB:	PR PR	PR PR	PR	PR	PR	PR	PR	PR	PR Rd	PR	PR	PR	PR	PR	PR	אק	PR	PR	PR	PR PR	PR	PR	ק קק	PR	ים א ע	PR	ק ק ע	PR	PR RQ	PR	PR	PR	PR R						
<pre>gnment Scores: d. No.: re: cent Similarity t Local Similar ry Match:</pre>	28-OCT-1999; 28-OCT-1999; 29-OCT-1999;	OCT-1999 OCT-1999	OCT-1999	SEP-1999	SEP-1999	SEP-1999	SEP-1999	SEP-1999	SEP-1999	SEP-1999	AUG-1999	AUG-199	AUG-199	AUG-199																									
1.61e-61 619.50 : 68.97% -tty: 61.58% 69.92%	99US-0161992. 99US-0161993. 99US-0162142.	9US-016	905-016	9US-016	90S-016	90S-016	9US-016	905-016	9US-016	905-016	9US-016	90S-015	9US-015	908-019	9US-015	9US-015	9US-015	9US-015	9US-015	9US-019	908-019	908-019	905-015	905-015	90S-015	905-01	905-019	9US-015	9US-019	908-019	9US-019	905-019	9US-01	905-01	9US-01	905-01	905-01	905-01	9US-01
Length: Matches: Conservative: Mismatches: Indels: Gaps:																																							
777 125 : 15 30 33																																							

16-JUN-1999
17-JUN-1999
18-JUN-1999
19-JUN-1999
19-JUN

9908 0139453
9908 0139454
9908 0139455
9908 0139456
9908 0139456
9908 0139458
9908 0139458
9908 0139461
9908 0139462
9908 0140353
9908 0140353
9908 0140353
9908 0140353
9908 0141287
9908 014287
9908 014287
9908 014287
9908 014287
9908 014287
9908 014287
9908 014287
9908 014484
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 0144333
9908 014591
9908 0147204
9908 0147204
9908 0147204
9908 0147203
9908 0147233
9908 0147233

```
RESULT 14
ABN98761
ID ABN98
XX ABN98
AC ABN98
AC ABN98
XX O1-AU
XX O1-AU
XX Arabi
XX Arabi
XX Arabi
XX Arabi
XX O1-E
XX O200
X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
(PRIC/) PRICE J L.
                   (GORL/) GORLACH J.
(ANYY/) AN Y.
(HAMI/) HAMILTON C
                                                                                                                27-JAN-2000;
                                                                                                                                                           26-JAN-2001;
                                                                                                                                                                                                           21-FEB-2002
                                                                                                                                                                                                                                                        US2002023281-A1
                                                                                                                                                                                                                                                                                                                                                   nutrition;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABN98761;
                                                                                                                                                                                                                                                                                                   Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                   disease; crop; thale
nutrition; ds.
                                                                                                                                                                                                                                                                                                                                                                                            Arabidopsis thaliana; plant; insecticide; fungicide;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Arabidopsis thaliana expressed polynucleotide SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABN98761 standard; DNA; 881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GlnSerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAlaThrAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeuVal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ThrileGlyValAspPheLysIleArgThrileGluLeuAspGlyLysThrileLysLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GlyCysCys 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGluPhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAAATTTGGGACACTGCTGGTCAAGAACGGTTCAGGACTATTACTAGCAGTTACTACCGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGCTGCTGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AATAATGCAAGACCACCGACCGTGCAGATCAGAGGACAGCCTGTGGCACAGAAG---AAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnSerGlyGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGGCTTTCATGGCAATGTCTGCATCCATCAAAGAGAGAATGGCTAGCCAACCAGCTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGAAACAAGTCTGATCTTACTGAAAACAGAGCCATTCCTTATGAAACTGCCAAGGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGGGCACATGGAATTATTATTGTCTACGATGTCACAGATGAAGAAAGCTTCAATAATGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlnIle----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTATTGGAGTCGATTTTAAAATTAGGACTGTGGAACAAGATGGCAAAACAATTAAGCTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCAAGTCTTGTCTTTTTGAGATTCTCTGATGATTCTTATGTAGAAAGTTACATTAGC
                                                                                                                2000US-178472P
                                                                                                                                                             2001US-0770445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                       3
                                                                                                                                                                                                                                                                                                                                                                         cress; tolerance factor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₽P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ------GluSerPheAsnAsnVal
                                                                                                                                                                                                                                                                                                                                                                      insect;
                                                                                                                                                                                                                                                                                                                                                                                            transgenic;
                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22
```

Score: Pred. No.:

Sequence

881

BP;

241 A;

199

ç;

180 G;

261 +

0 other;

Query Match:

Best Local Similarity: Percent Similarity

1.9e-61 619.50 68.97% 61.58% 69.92%

Length:
Matches:
Conservative:
Mismatches:

```
couseful for screening a candidate agent for its biological effect. (I) is compositions that modulate the expression or function of its encoded compositions that modulate the expression or function of its encoded compositions that modulate the expression or function of its encoded compositions that modulate the expression or function of its encoded compositions that modulate the expression or function of its encoded compositions that the commanication of cells, particularly plant cells. (I) is also useful for the genetic commanication of cells, particularly plant cells. (I) is also useful in the screening assays of various plant strains to determine the strains that commanication in the strain strains. (I) is also useful in screening assays of various plant strains to determine the strains that capable of withstanding a particular disease or environmental stress. (II) and (III) are useful for screening of biologically active agents, e.g., fungicides, etc., for elucidating biochemical pathways. The screened agents are useful in improved methods of treating crops to programs to identify agents that mimic or enhance the action of tolerance compositions. (III) is useful for identifying other mediators that may induce expression of proteins of interest, for establishing the extent to which any specific insect and/or pathogen is responsible for damage to a particular plant, for identifying other mediators that enhance or induce tolerance to environmental stress, for identifying factors involved in biosynthetic pathways of nutritional, commercial, or medicinal value and composition of the study of genetic function and regulation, composition of the sequence data for this patent did not form art of the printed specification, but was obtained in electronic format directly from USPTO at segdata.uspto.gov/sequence.html?DocID=99909770445.
Gorlach
Rameaka
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to an Arabidopsis thaliana nucleic acid (I) comprising a sequence capable of hybridising under stringent conditions to a sequence selected from any one of plant (BN98233-ABN99231), given in the specification or its fragment. A polypeptide (II) encoded by (I), a transgenic plant (III) comprising an exogenous nucleic acid or a genetically modified cell (IV) comprising an exogenous nucleic acid, is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New Arabidopsis thaliana nucleic acid for identifying homologous genes, producing compositions that modulate the expression or function of its encoded protein, and mapping functional regions of protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (KRIC/)
(SLAT/)
(DAVI/)
(ALLE/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (LEDF/)
(WOES/)
(HAAS/)
(GARC/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2002-400781/43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (RAME/)
(PAGE/)
(MATH/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hurban
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Garcia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (RAIN/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (HURB/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HOFF/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HAAS W D.
GARCIA C A.
KRICKER M.
SLATER T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DAVIS K R. ALLEN K. HOFFMAN N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MATHEW A V.
LEDFORD B L.
WOESSNER J P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HURBAN P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PAGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RAMEAKA J G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 529; 49pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        An Y, Hami
, Page A, M
Kricker M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hamilton
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mathew
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Slater
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Y AV,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ξĶ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Price JL, Raines :
Ledford BL, Woess
Davis KR, Allen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Raines TM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Woessner
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ζ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Yu Y;
JP, Haa
Hoffman
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Haas
man N;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₽
```

ACC CLI	Qy	9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	US-09- OY OY OY OY OY OY OY OY OY
RESULT 15 AAC42764 ID AAC42764; XX XX AC AAC42764; XX C AAC42764;	131 GlnSerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAlaThrAla 150	GGGCACATGAATTATTATTGTCTACGATGTCACAGATGAAGAACGCTTAAAACGTTATAATTGTCTACGATGTCACAGATGAAGAAACCTTCAATAATGTC LysG1DTrpLeuGlnG1uIleAspArgTyrAlaSerG1uAsnValASACCTCCATAAATGTC LyG1DTrpLeuGlnG1uIleAspArgTyrAlaSerG1uAsnValASACTCCTTGTT AAGCAATGGTTGAGTGAAATTGATCGTTATGCTAGTGACAATGTCAACCAAC	39-820-003A-2 (1-173) x ABN98761 (1-881) 3 SERMETASAPCOGLUTYRASPTYLLEUPHELYSLEULEULEULIEGLYASPSETGLYVAL 22 3::
77777777777777777777777777777777777777			
18 - JUN 118 - J	08-JUN 10-JUN 10-JUN 114-JUN 116-JUN 116-JUN 117-JUN 118-JUN 118-JUN 118-JUN	14 - MAY - 1999; 14 - MAY - 1999; 14 - MAY - 1999; 14 - MAY - 1999; 14 - MAY - 1999; 16 - MAY - 1999; 20 - MAY - 1999; 21 - MAY - 1999; 24 - MAY - 1999; 27 - MAY - 1999; 28 - MAY - 1999; 29 - MAY - 1999; 20 - MAY - 1999; 20 - MAY - 1999; 21 - MAY - 1999; 22 - MAY - 1999; 23 - MAY - 1999; 24 - MAY - 1999; 26 - MAY - 1999; 27 - JUN - 1999; 28 - MAY - 1999; 29 - JUN - 1999; 20 - JUN - 1999; 21 - JUN - 1999; 21 - JUN - 1999;	23-MAR-1999; 25-MAR-1999; 29-MAR-1999; 01-APR-1999; 06-APR-1999; 16-APR-1999; 11-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-AP
18 JUN 1999 21 JUN 1999 22 JUN 1999 23 JUN 1999 23 JUN 1999 24 JUN 1999 25 JUN 1999 26 JUN 1999 27 JUN 1999 28 JUN 1999 29 JUN 1999 30 JUN 1999 30 JUN 1999 30 JUN 1999 30 JUN 1999 31 JUN 1999 32 JUN 1999 33 JUN 1999 34 JUN 1999 35 JUN 1999 36 JUN 1999 37 JUN 1999 38 JUN 1999 38 JUN 1999 38 JUN 1999 39 JUN 1999 30 JUN	08-JUN-1999 10-JUN-1999 10-JUN-1999 14-JUN-1999 14-JUN-1999 16-JUN-1999 17-JUN-1999 18-JUN-1999 18-JUN-1999 18-JUN-1999 18-JUN-1999	1999	23-MAR-1999; 25-MAR-1999; 29-MAR-1999; 01-APR-1999; 06-APR-1999; 16-APR-1999; 19-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-APR-1999; 21-AP
9908 - 013946 9908 - 013946 9908 - 013946 9908 - 013946 9908 - 013976 9908 - 013976 9908 - 013976 9908 - 01405 9908 - 01405 9908 - 01408 9908 - 01408 9908 - 01408 9908 - 014187 9908 - 014187 9908 - 014187 9908 - 014254 9908 - 014254			

```
Alignment s
Pred. No.:
Score:
                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
Query Match:
        Qy
                       В
                                 δÃ
                                                 ₽
                                                          δ
                                                                         В
                                                                                    γQ
                                                                                                  В
                                                                                                           Qy
                                                                                                                          Вþ
                                                                                                                                    γQ
                                                                                                                                                   밁
                                                                                                                                                             δÃ
                                                                                                                                                                            뫄
                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                    US-09-820-003A-2 (1-173)
                                                                                                                                                                                                                                                                  07-0CT-1999
18-0CT-1999
11-0CT-1999
11-0CT-1999
13-0CT-1999
13-0CT-1999
14-0CT-1999
14-0CT-1999
14-0CT-1999
14-0CT-1999
12-0CT-1999
21-0CT-1999
           117
                                                 373
                         433
                                                                                                                           193
 493
                                                                          313
                                                                                                   253
                                                                                                                                                    133
                                    97
                                                             77
                                                                                       65
                                                                                                               64
                                                                                                                                       49
                                                                                                                                                                29
                                                                                                                                                                            73
                                                                                                                                                                                          9
                                                                                                                                                   GGCCAGGAACGTTTCAGAACGATTACTAGCAGTTACTACAGAGGAGCTCATGGAATTATT
                                                                                                                                                                                                                                                      Scores:
                                                                                                                                                                                                                                                                  9908-0158029

9908-0158229

9908-0159293

9908-0159293

9908-0159299

9908-0159331

9908-0159331

9908-0159637

9908-0160747

9908-0160747

9908-0160747

9908-0160740

9908-0160740

9908-0160815

9908-0160880

9908-0160880

9908-0161406

9908-0161406

9908-0161359

9908-0161359

9908-0161359

9908-0161920

9908-0161920

9908-0161920

9908-0161920

9908-0161920
                                                                                                                                                                                                                 9.5e-61
612.00
70.56%
64.97%
69.07%
                                                                                                                                                                                                    x AAC42764
                                                                                                                                                                                                     (1-666)
                                                                                                                                                                                                                Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                  128
128
11
24
34
                                                                                                   312
                                                                                                                                                                48
 552
             136
                         492
                                 116
                                                  432
                                                              96
                                                                           372
                                                                                       76
                                                                                                              64
                                                                                                                            252
                                                                                                                                       64
                                                                                                                                                   192
                                                                                                                                                                            132
                                                                                                                                                                                         28
```

16-JUL-1999
19-JUL-1999
19-JUL-1999
19-JUL-1999
19-JUL-1999
19-JUL-1999
20-JUL-1999
20-JUL-1999
20-JUL-1999
20-JUL-1999
21-JUL-1999
21-JUL-1999
22-JUL-1999
22-JUL-1999
22-JUL-1999
22-JUL-1999
22-JUL-1999
22-JUL-1999
22-JUL-1999
23-JUL-1999
23-JUL-1999
23-JUL-1999
23-JUL-1999
24-JUL-1999
25-JUL-1999
27-JUL-1999
27-JUL-1999
27-JUL-1999
27-JUL-1999
28-JUL-1999
29-JUL-1999
29-JUL-1999
20-AUG-1999
20-AUG-1999
21-AUG-1999
22-AUG-1999
23-AUG-1999
24-AUG-1999
25-AUG-1999
26-AUG-1999
27-AUG-1999
27-AUG-1999
28-SEP-1999
29-SEP-1999
29-SEP-1999
20-SEP-1999
21-SEP-1999

9905-0144085
9905-0144331
9905-0144333
9905-0144333
9905-0144332
9905-0144335
9905-0144335
9905-01446332
9905-0144688
9905-0145088
9905-0145088
9905-0145088
9905-0145088
9905-0145088
9905-0145088
9905-0145088
9905-0145145
9905-0145145
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-014518
9905-0145139
9905-0155486
9905-0155486
9905-0155596
9905-0155751

В	Qy	В	Qy
610	157	553	137
610 ACGGTCCAGATCCGAGGACAACCTGTTAACCAGCAATCAGGCTGCTGC 657	157 AsnValLysIleGlnSerThrProValLysGlnSerGlyGlyGlyCysCys 173	553 ACTGCTGCAATCAAGACCAGAATGGCGAGCCAACCTGCAGGAGGATCTAAGCCACCA 609	roGlyAlaT

Search completed: November 17, 2002, 13:13:16 Job time : 259 secs

	·	
* 2		
· •,		
•	ra.	
ئون داد د د		
		en e
or the second		
•		
	ger en	
•		
*		
•		
4		
*	of the second of	

Title: Perfect score: Sequence:

Scoring table:

Run 8

protein on:

Minimum DB Maximum DB Total number

```
Command line parameters:

-MODEL-framet_p2n.model -DEV=x1h
-CyCgn2_1(YSFTC_spool/US09820003/runat_13112002_134617_3205/app_query.fasta_1.327
-OP-Cgn2_1(YSFTC_spool/US09820003/runat_13112002_134617_3205/app_query.fasta_1.327
-DB-Published_Applications_Na -OFMT-fastap -SUFFIX=rnpb -MINNATCH=0.1
-LOOPCL-0 -LOOPEXT=0 -UNITS-bits -START=1 -END=-1 -MATRIX=bitosun62
-TRAMS=bumdan40 .cdi -LIST-45 -DOCALIGN-200 -THR_SCORE=pct -THR_MAX=100
-THR_MIN=0 -ALIGN=15 -MODE=LOCAL -OUTFMT-ptc -NORM-ext -HEAPSIZE=500 -MINLEN=0
-MAXLEN=200000000 -USER-USO9820003 @CGR 1 1_20 @runat_13112002_134617_3205
-NCPU=6 -ICPU=3 -NO_XLPXY -NO_MADP -LARGGUERY -NEG_SCORES-0 -MAIT -LONGLOG
-DEV_TIMEOUT=120 -WARN_TIMEOUT=30 -THREADS=1 -XGAPOP=10 -XGAPEXT=0.5 -FGAPOP=6
-FGAPEXT=7 -YGAPOP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                            Published_Applications_NA:*

1: /cgn2_6/ptodata/2/pubpna/US07_PUBCOMB.seq:*

2: /cgn2_6/ptodata/2/pubpna/US06_NEW_PUB.seq:*

3: /cgn2_6/ptodata/2/pubpna/US06_NEW_PUB.seq:*

4: /cgn2_6/ptodata/2/pubpna/US06_NEW_PUB.seq:*

5: /cgn2_6/ptodata/2/pubpna/US07_NEW_PUB.seq:*

6: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq:*

6: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq:*

8: /cgn2_6/ptodata/2/pubpna/US08_NEW_PUB.seq:*

9: /cgn2_6/ptodata/2/pubpna/US09_NEW_PUB.seq:*

10: /cgn2_6/ptodata/2/pubpna/US09_NEW_PUB.seq:*

11: /cgn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*

13: /cgn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*

14: /cgn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*

14: /cgn2_6/ptodata/2/pubpna/US10_NEW_PUB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nucleic search, using frame_plus_p2n model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Xgapop 10.0 , Xgapext
Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-820-003A-2
886
1 MSSMNPEYDYLFKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   November 17, 2002, 13:08:03 ; Search time 51 Seconds (without alignments) 1253.443 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 328367 seqs, 184756068 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MSSMNPEYDYLFKLLLIGDS.....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd
                                                                                                                      Length DB
        1405
925
609
881
  10 US-09-820-003A-1
10 US-09-967-736-4
9 US-09-938-842A-832
10 US-09-770-445-529
                                                                                                                         IJ
                                                                                                                                                                                                SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.5
0.5
7.0
7.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EKSNVKIQSTPVKQSGGGCC 173
Sequence 1, Appli
Sequence 4, Appli
Sequence 832, App
Sequence 529, App
                                                                                                     Description
                                                                                                                                                                                                                                                      Sequence 1, Application US/09820003A

Patent No. US20020142382A1

GENERAL INFORMATION:
APPLICANT: MERKULOV, Gennady et al.
TITLE OF INVENTION: ISOLATED HUMAN RAS-LIKE PROTEINS,
TITLE OF INVENTION: PROTEINS, AND USES THEREOF
TITLE OF INVENTION: PROTEINS, AND USES THEREOF
FILE REFERENCE: CLO01196
CURRENT APPLICATION UNUMBER: US/09/820,003A
CURRENT FILING DATE: 2001-03-29
NUMBER OF SEQ ID NOS: 39
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
LENGTH: 1405
TYPE: DNA
                         Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                    ; ORGANISM: Homo sapier US-09-820-003A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 1
US-09-820-003A-1
                                                                                                                                             Alignment Scores: Pred. No.:
                                                                                                                         Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             428.7
414.4
414.4
414.4
414.4
414.4
414.4
414.4
414.4
413.3
390.5
390.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3327.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
3227.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9.06e-107
886.00
100.00%
100.00%
100.00%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10 US-09-820-003A-3
0 US-09-938-827-9
10 US-09-938-827-9
11 US-09-938-97-89
11 US-09-934-975-89
11 US-09-934-975-89
11 US-09-834-975-89
12 US-09-834-975-89
13 US-09-834-975-89
14 US-09-834-975-89
15 US-09-834-975-89
16 US-09-934-035A-79
17 US-09-924-035A-79
18 US-09-924-035A-79
19 US-09-937-80A-1461
10 US-09-938-842A-711
10 US-09-938-842A-711
10 US-09-938-842A-713
10 US-09-938-842A-713
11 US-09-938-842A-713
12 US-09-938-842A-713
13 US-09-938-842A-713
14 US-09-938-842A-713
15 US-09-938-842A-73
16 US-09-938-842A-73
17 US-09-938-842A-73
18 US-09-938-842A-73
19 US-09-938-842A-73
10 US-09-938-842A-74
                                                Length:
Matches:
Conservative:
Mismatches:
Indels:
                         Gaps:
                      1405
173
0
0
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 3, Appli
Sequence 815, App
Sequence 80, Appli
Sequence 9, Appli
Sequence 804, App
Sequence 804, App
Sequence 804, App
Sequence 794, Appli
Sequence 794, Appli
Sequence 714, Appli
Sequence 1142, App
Sequence 1161, App
Sequence 1161, Appli
Sequence 113, Appli
Sequence 113, Appli
Sequence 113, Appli
Sequence 1140, Appli
Sequence 115, Appli
Sequence 1165, Appl
```

Database :

Result No.

Score

% Query Match

886 768.5 642 619.5

100 86 72 69

. 5

```
RESULT 2
US-09-967-736-4
; Sequence 4, Application US/09967736
; Patent No. US20020103340A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-820-003A-2 (1-173) x
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              _
                                                                                                                                                                                                                                                            NUMBER OF SEQUENCE:
CORRESPONDENCE ADDRESS:
ADDRESSEE: Incyte Pharmaceuticals, Inc.
STREET: 3174 Porter Dr.
4
                                                                             APPLICATION NUMBER: 09/154,602 FILING DATE: <Unknown> ATTORNEY/AGENT INFORMATION:
                                                                                                                 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/967,736
FILING DATE: 28-Sep-2001
PRIOR APPLICATION DATA:
                           REFERENCE/DOCKET NUMBER: PF-0367 TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                  COUNTRY: USA
ZIP: 94304
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GlnSerThrProValLysGlnSerGlyGlyGlyGlyCysCys 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AlaSerGluAsnValAsnLysLeuLeuValGlyAsnLysCysAspLeuThrThrLysLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LysLysArgMetGlyProGlyAlaThrAlaGlyGlyAlaGluLysSerAsnValLysIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ThrSerAlaLysAsnAlaThrAsnValGluGlnSerPheMetThrMetAlaAlaGluIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlyValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGGGTTGGAAAGTCTTGCCTTCTTTAGGTTTGCAGATGATACATATACAGAAAGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAAAAGCGAATGGGTCCCGGAGCAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCAGTGCTAAGAATGCAACGAATGTAGAACAGTCTTTCATGACGATGGCAGCTGAGATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATCAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATC
                                                                                                                                                                   MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Windows Version
                                                   NAME: Billings, Lucy J. REGISTRATION NUMBER: 36,749
                                                                                                                                                                                                                                                           STATE: CA
                                                                                                                                                                                                                                                                                                                         OF INVENTION: RAB PROTEINS OF SEQUENCES: 9
                                                                                                                                                                                                                                                                                                                                                  Shah,
                                                                                                                                                                                                                                                                                                                                                                           Lal,
                                                                                                                                                                                                                                                                                                                                                                                      Hillman, Jennifer
                                                                                                                                                                                                                                                                                                                                                             Corley, Neil C.
                                                                                                                                                                                                                                                                                                                                                                           Preet
                                                                                                                                                                                                                                                                                                                                              Purvi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-820-003A-1 (1-1405)
                                                                                                                                                                                                                                                                                                                                                                                       ۲
                                          S
                                                                                                                                                                     2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
                           US-09-938-842A-832
; Sequence 832, Application US/09938842A
; Patent No. US20020160378A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     γQ
                                                                                                                             δÃ
                                                                                                                                                                               δÃ
                                                                                                                                                                                                         밁
                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                        Ъ
                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                 ρy
                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                             맑
                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; SEQUENCE DESCRIPTION: SEQUE-09-967-736-4
                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-820-003A-2 (1-173) x US-09-967-736-4 (1-925)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred.
               APPLICANT: Harper,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEFAX: 415-845-4166 INFORMATION FOR SEQ ID NO: 4: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         No . .
                                                                                                                                                        600
                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                               170
                                                                                                                                                                                                                                  130
                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                  110
                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                    90
                                                                                                                                                                                                                                                                                                                                                                                      70
                                                                                                                                                                                                                                                                                                                                                                                                                                        65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22 ValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60 GCCGCCATGAACCCCGAATATGACTACCTGTTTAAGCTGCTTTTGATTGGCGACTCAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IMMEDIATE SOURCE:
                                                                                                                  GlyGlyCysCys
                                                                                                                                                                                                        PheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsnVal
                                                                                                                                                                                                                                                                                                                         ValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGlu
                                                                                                                                                                                                                                                                                                                                                             SerThrIleGlyValAspPheLysIleArgThrIleGluLeuAspGlyLysThrIleLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SerSerMetAsnProGluTyrAspTyrLeuPheLysLeuLeuLeuIleGlyAspSerGly
                                                                                                                                                                    TTTGCAGACTCTCTGGGCATCCCCTTCTTGGAGACGAGCGCCCAAGAATGCCACCAATGTC
                                                                                                                                                                                                                                                                                                                                                                                                             CGGGGGGCTCATGGCATCATCGTGGTGTATGACGTCACTGACCAGGAATCCTACGCCAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTTCAGATCTGGGACACAGCGGGCCAGGAACGGTTCCGGACCATCACTTCCAGCTACTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeuGlnIle-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTGGGCAAGTCATGCCTGCTGCGGTTTGCTGATGACACGTACACAGAGAGCTACATC
                                                                                                      GGTGGCTGTTGC
                                                                                                                                                        TCTGGGGGC---GAGCGGCCCAATCTCAAGATCGACAGCACCCCTGTAAAGCCGGCTGGC
                                                                                                                                                                                                                                                                                                             GTGGGCAACAAGAGCGACCTCACCACCAAGAAGGTGGTGGACAACACCACAGCCAAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGCACCATCGGGGTGGACTTCAAGATCCGAACCATCGAGCTGGATGGCAAAACTATCAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 925 base pairs TYPE: nucleic acid STRANDEDNESS: single TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LIBRARY: LIVRTUT04
CLONE: 2514506
                                                                                                      899
                                                                                                                              173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1.25e-91
768.50
80.39%
76.47%
86.74%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length: Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4.
                                                                                                                                                                                                                                                                                                                                                                                                                                      -GluSerPheAsnAsn
```

239

69

119 41 179 61 21

149 599 169

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     : LENGTH: 609
: TYPE: DNA
: ORGANISM: Arabidopsis thaliana
US-09-938-842A-832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-820-003A-2 (1-173) x US-09-938-842A-832 (1-609)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: US 60/227,866
PRIOR FILING DATE: 2000-08-24
PRIOR APPLICATION NUMBER: US 60/264,647
PRIOR FILING DATE: 2001-01-16
PRIOR APPLICATION NUMBER: US 60/300,111
PRIOR FILING DATE: 2001-06-22
NUMBER OF SEQ ID NOS: 5379
SEQ ID NO 832
LENGTH: 609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: STRESS-REGULATED GENES OF TITLE OF INVENTION: SAME, AND METHODS OF USE FILE REFERENCE: SCRIP1300-3
CURRENT APPLICATION NUMBER: US/09/938,842A
CURRENT FILING DATE: 2001-08-24
                                                                                                                                                                                                                                                                                                                                                                                     241 GCTCATGGAATTATTGTGACTTATGATGTAACAGATCTAGAAAGCTTCAACAACGTCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4 MetAsnProGluTyrAspTyrLeuPheLysLeuLeuLleuIleGlyAspSerGlyValGly
   Cyscys 173
                                                                             GlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnSerGlyGlyGly 171
                                                                                                                                        SerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAlaThrAlaGly
                                                                                                                                                                               ACAAGTGTGATCTCACATCACAGAAAGTTGTATCCACTGAGACAGCTAAGGCTTTCGCT
                                                                                                                                                                                                                                                                                                                                  GlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeuValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IleGlyValAspPheLysIleArgThrIleGluLeuAspGlyLysThrIleLysLeuGln
|||||||||||||||||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGATCTAAGCCACCAACGGTCCAGATCCGAGGACAACCTGTTAACCAGCAA---TCAGGC
                                                                                                                  GCTTTCATGGCCATGACTGCTGCAATCAAGACCAGAATGGCG---AGCCAACCTGCAGGA
                                                                                                                                                                                                                                                                          AsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGluPheAla 111
                                                                                                                                                                                                                                                                                                                    CAATGGCTAAATGAAATCGACCGCTATGCAAGTGAGAATGTTAACAAGCTACTGGTTGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATTTGGGATACGGCAGGCCAGGAACGTTTCAGAACGATTACTAGCAGTTACTACAGAGGA 24(
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ile
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTGGTGTCGACTTTAAAATCCGAACAGTCGAACAAGATGGAAAGACCATCAAACTCCAG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGAATCCTGAATATGACTATTTGTTCAAGCTTTTGCTCATTGGTGATTCTGGTGTTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                   -----GluSerPheAsnAsnValLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Wang,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2.61e-75
642.00
71.29%
65.84%
72.46%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PLANTS, TRANSGENIC PLANTS CONTAINING
                                                                                                                                                  151
                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                    537
                                                                                                                                                                                                                                                                                                                                                   91
                                                                                                                                                                                                                                                                                                                                                                                                                   71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Davis, Keith R.
APPLICANT: Hurban, Keith
APPLICANT: Hoffnan, Neil
APPLICANT: Hoffnan, Neil
APPLICANT: Hurban, Patrick
TITLE OF INVENTION: Expressed Sequences of Arabidopsis
TITLE OF INVENTION: Thaliana
FILE REFERENCE: 2023US (PARA-012PRV)
CURRENT APPLICATION UNMBER: US/90/770,445
CURRENT FILING DATE: 2001-01-26
PRIOR APPLICATION NUMBER: US 60/178,472
PRIOR APPLICATION NUMBER: US 60/178,472
PRIOR APPLICATION NUMBER: US 60/178,472
PRIOR FILING DATE: 2000-01-27
NUMBER OF SEO ID NOS: 999
                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                           QΥ
                                                                                                              뫄
                                                                                                                                          ρ
                                                                                                                                                                               밁
                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                            γ
                                                                                                                                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                 US-09-820-003A-2 (1-173) x US-09-770-445-529 (1-881)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; ORGANISM: Arabidopsis thaliana US-09-770-445-529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 4
US-09-770-445-529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; SOFTWARE: Fa
; SEQ ID NO 529
; LENGTH: 881
; TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 529, Application US/09770445 Patent No. US20020023281A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      No.:
                                                   297
                                                                                                                                                                                   177
                                                                                                                                                                                                                                                   117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                595 TGCTGC 600
71 LysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeuVal
                                                                                                                                                  63
                                                                                                                                                                                                                 43
                                                                                                                                                                                                                                                                                23
                                                                                                                                                                                                                                                                                                                ThrileGlyValAspPheLysIleArgThrileGluLeuAspGlyLysThrileTysLeu 62
                                                                                                                                                                                                                                               GGGGCACATGGAATTATTATTGTCTACGATGTCACAGATGAAGAAAGCTTCAATAATGTC
                                                                                                                CAAATTTGGGACACTGCTGGTCAAGAACGGTTCAGGACTATTACTAGCAGTTACTACCGT 296
                                                                                                                                                    GlnIle-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Page, Amy
Matthew, Abraham V.
Ledford, Brooke L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hamilton, Caror
Price, Jennifer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Kricker, Maja
Slader, Ted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Garcia, Carlos A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Woessner, Jeffrey P.
Haas, William David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rameaka
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Raines,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gorlach, Jorn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tracy
                                                                                                                                                                                                                                                                                                                                                                                                                   3.94e-72
619.50
68.97%
61.58%
69.92%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Joshua G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3
                                                                                                                                                                                                                                                                                                                                                                                                             Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
```

δÃ 밁 QΥ 문 Qy ₽ ρy 밁 Qy 밁 Q 멍 Qy В Q 밁 δÃ 밁 Ş

-GluSerPheAsnAsnVal 70

64 236 176 42 116 22

90 356 481

421

361

92

301

72

181

64

65

121

44 61 24

밁

172

Score:

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 3, Application US/09820003A

Patent No. US20020142382A1

GENERAL INFORMATION:

APPLICANT: MERRULOV, Gennady et al.

TITLE OF INVENTION: ISOLATED HUMAN RAS-LIKE PROTEINS,

TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING THE

TITLE OF INVENTION: PROTEINS, AND USES THEREOF

FILE REFERENCE: CL001196

CURRENT APPLICATION NUMBER: US/09/820,003A

CURRENT FILING DATE: 2001-03-29

NUMBER OF SEQ ID NOS: 39

SOFTWARE: FASTSEQ for Windows Version 4.0

SEQ ID NO 3
                                                   Q
                                                                               В
                                                                                                         Ş
                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
Š
                             닭
                                                                                                                                     밁
                                                                                                                                                                                          В
                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                ; NAME/KEY: misc_feature
; LOCATION: (1)...(46050)
; OTHER INFORMATION: n =
US-09-820-003A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                             US-09-820-003A-2 (1-173) x US-09-820-003A-3 (1-46050)
                                                                                                                                                                                                                                                                                                                              Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-820-003A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                       Alignment Scores:
                                                                                  42857
                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Homo sapien FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 46050
                                                                                                                                                                                                                                                                                                                                            NO . .
  104 TyrThrThrAlaLys--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            151
                                                        84
                                                                                                            64
                                                                                                                                                                 44
                                                                                                                                                                                                                     24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        91
                                                                               LysSerCysLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyrIleSerThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GlnSerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAlaThrAla 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGluPhe
                          AGGTCAGGAACGATGTTTCTGTTTATTCCAGAACTATATTATCGAACTATATTATCAGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGCTGCTGC 662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GlyCysCys 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTATECAAGACCACCGACCGTGCAGATCAGAGGACAGCCTGTGGCACAGAAG---AAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnSerGlyGly 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AsnValAsnLysLeuLeuValGlyAsnLysCysAspLeuThrThrLysLysValValAsp
                                                                                                                                      TTTCAAATGTCTTTT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGAAACAAGTCTGATCTTACTGAAAACAGAGCCATTCCTTATGAAACTGCCAAGGCTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAGCAATGGTTGAGTGAAATTGATCGTTATGCTAGTGACAATGTCAACAAACTCCTTGTT
                                                                                                                                                              IleGlyValAspPheLysIleArgThrIleGluLeuAspGlyLysThrIleLysLeuGln
                                                                                                                                                                                                                                                                                    2.29e-52
487.50
51.07%
48.50%
55.02%
                                                                                                                                                                                                                                                                                                                                                                                                Α,Τ,
                                                                                                                                                                                                                                                                                                                                                                                                 ,
o
                                                                                                                                                                                                                                                                                                                                                                                               ç
                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                       46050
113
6
16
99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      THESE HUMAN RAS-LIKE
                            42976
                                                     103
                                                                                 42916
                                                                                                          83
                                                                                                                                     42856
                                                                                                                                                                                          42841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   416
 108
```

```
Qy
밁
                      Q
                                                  Вp
                                                                                                        В
                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                 ; TYPE: DNA
; ORGANISM: HOMO
US-09-820-003A-36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вр
                                                                                                                                                              US-09-820-003A-2 (1-173) x US-09-820-003A-36 (1-601)
                                                                                                                                                                                                     Query Match:
                                                                                                                                                                                                                  Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                              Score:
                                                                                                                                                                                                                                                                         Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-820-003A-36
                                                                                                                                                                                                                                                            Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: MERKULOV, Gennady et al.
TITLE OF INVENTION: ISOLATED HUMAN RAS-LIKE PROTEINS.
TITLE OF INVENTION: NUCLEIC ACID MOLECULES ENCODING
TITLE OF INVENTION: PROTEINS, AND USES THEREOF
FILE REFERENCE: CL001196
                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS:
SOFTWARE: FastSEQ for
SEQ ID NO 36
LENGTH: 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 36, Application US/09820003A Patent No. US20020142382Al
                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/09/820,003A CURRENT FILING DATE: 2001-03-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       43216 AATTGTGCCTCATTATTCTCTTAGGAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     43036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             43156 ACGCTCCATTATGGATGGTAGAAATGCAGTAAGAATTAGTGAAAAAAGATTTTTCAGTGTT 43215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         141
                       106 ThrAlaLys----
                                                                                                       63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LysLysArgMetGlyProGlyAlaThrAlaGlyGlyAlaGluLysSerAsnValLysIle 160
ACAGCGAA-GGTATGTTTAAAGTTTAATTTTCATACTGAATTTGAAGGTGTTGAATTATG
                                                 ASnLysLeuLeuValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThr 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAAAAGCGAATGGGTCCCGGAGCAACAGCTGGTGGTGCTGAGAAGTCCAATGTTAAAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AATACTGTGACAGTGACAATTTGTGTAGCATCTGTTTTGGATCCAATGAACTTAGTTCCTC 43155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTATGTATGGGTTCTGCAGTAACAGTAAGGCCACAGCCTTTTAAAAATATGTGCACTAG
                                                                                                                                                                                                                                                                                                                sapien
                                                                                                                                                                                       3.23e-54
481.00
56.02%
56.02%
54.29%
                                                                                                                                                                                                                                                                                                                                                                      Windows
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -GluPheAlaAspSerLeuGlyIleProPheLeuGlu
                                                                                                                                                                                                                                             Length: Matches:
                                                                                                                                                                                                       Mismatches: Indels:
                                                                                                                                                                                                                                 Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            43434
                                                                                                                                                                                        601
107
0
1
84
                                                                                                                                                                                                                                                                                                                                                                                                                                                     THESE HUMAN RAS-LIKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                43395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          43275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      43095
 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      43335
                                                                                                         62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 108
```

Alignment Scores: Pred. No.: Score: Score: Percent Similarity: Best Local Similarity: Ouery Match: DB: US-09-820-003A-2 (1-17: US-09-820-003A-2 (1-17: DB: US-09-820-103A-2 (1-17: DB: US-09-820-103A-	US-09-938-842A-836 ; Sequence 836, Applic ; Patent NO. US2002016 ; GENERAL INFORMATION: APPLICANT: Harper, APPLICANT: Wang, X APPLICANT: SCH, TITLE OF INVENTION: TITLE OF INVENTION: TITLE OF INVENTION: CURRENT FILING DATE: PRIOR APPLICATION DATE: PRIOR APPLICATION UNDERSOR APPLICATION UNDE	Qy 163 ThrPr        Db 542 ACTCC	Qy 143 Argme          Db 482 CGAAT	Qy 123 AlaLy          Db 422 GCTAA	Db 362 GCCTC		Qу 108	Db 242 GTGAC	Оу 108	Db 182 TATGG	ОУ 108
S: 2.76e-47 428.50 1ty: 428.50 1trity: 44.028 44.028 48.368 9 2 (1-173) x US-09-938 2 (1-173) x US-09-938 1	Jeff Joel USTRESS-REGU STRESS-REGU STRESS-REGU SAME, AND SAME; US/ 1: 2001-08-2 UMBER: US 60, 2001-01-16 2001-06-22 S: 5379	ThrProValLysGlnSerGlyGlyGlyCysCys	tGlyProGlyAlaThrAla             GGTCCCGGAGCAACAGCT	SASNAlaThrASnValGlu(               GAATGCAACGAATGTAGAA(	GluPhe        ATTATTCTCTTAGGAATTT	TGGATGGTAGAAATGCAGT.	1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	AGTGACAATTTGTGTAGCA		GTTCTGCAGTAACAGTAAG	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Scores: 2.76e-47	GENES OF PLANTS, TRANSGENIC DS OF USE ),842A 166	GlyCysCys 173           GTTGCTGC 574	ArgMetGlyProGlyAlaThrAlaGlyGlyAlaGluLysSerAsnValLysIleGlnSer 	AlaLysAsnAlaThrAsnValGluGlnSerPheMetThrMetAlaAlaGluIleLysLys 	GluPheAlaAspSerLeuGlyIleProPheLeuGluThrSerGluPheAlaAspSerLeuGlyIleProPheLeuGluThrSer	CATTATGGATGGTAGAAATGCAGTAAGAATTAGTGAAAAAGATTTTTCAGTGTTAATTGT		GTGACAGTGACAATTTGTGTAGCATCTGTTTGGATCCAATGAACTTAGTTCCTCACGCTY		${\tt TATGGGTTCTGCAGTAACAGTAAGGCCCACAGCCTTTTAAAAATATGTGCACTAGAATACT}$	
	PLANTS CONTAINING		541	3 142 3 481	421	361	108	301	108	241	108

```
Percent Similarity:
Best Local Similarity:
Query Match:
                                              밁
                                                                    QΥ
                                                                                                                                                                                                               Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                                  Sequence 9, Application US/09794257

Patent No. US2002009804A1

GENERAL INFORMATION:
APPLICANT: Meyers, Rachel
TITLE OF INVENTION: 4 man G-Proteins
FILE REFERENCE: 35800/209285
CURRENT APPLICATION NUMBER: US/09/794,257
CURRENT FILING DATE: 2001-02-27
PRIOR APPLICATION NUMBER: 60/185,606
PRIOR FILING DATE: 2001-02-29
NUMBER OF SEQ ID NOS: 16
PRIOR FILING DATE: 3000-02-29
SEG ID NO 9
LENGTH: 624
TYPED: NAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 8
US-09-794-257-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Дb
                                                                                                      US-09-820-003A-2 (1-173) x US-09-794-257-9 (1-624)
                                                                                                                                                                                                                                                              ; TYPE: DNA
; ORGANISM: homo sapiens
US-09-794-257-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           172 -----CysCys 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 565 GAGCCGCAAACAATCAAAATCAACCAATCC-----GACCAAGGTGCGGGAACATCT 615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    616 CAAGCTACTCAGAAATCAGCATGTTGC 642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        154 GluLysSerAsnValLysIleGlnSerThrProValLysGlnSerGlyGlyGly----- 171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         511 TTCTCTATTGCTAAAGACATTAAGCAAAGACTTGCAGAT-----ACCGATGCACGAGCT 564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      134 MetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAlaThrAlaGlyGlyAla 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              391 GATATGGATGAAAGCAAAAGAGCTGTGCCAAAATCTAAGGGCCAAGCTCTTGCAGATGAA 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   271 ATTTTGCTTGTGTATGATGTGACTGATGAATCATCTTTCAACAACATCAGGAATTGGATC 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          151 GATTTTAAGATACGGACTATTGAGCTCGATGGGAAGAGAATTAAGCTGCAAATCTGGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              211 ACTGCCGGACAGGAGCGGTTCCGCACAATCACAACTGCGTACTACCGTGGAGCCATGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95 AspLeu---ThrThrLysLysValValAspTyrThrThrAlaLysGluPheAlaAspSer 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       47 AspPheLysIleArgThrIleGluLeuAspGlyLysThrIleLysLeuGlnIle-----
                                           LysSerCysLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyrIleSerThr 43
                                                                                                                                       2.06e-45
414.00
60.50%
43.50%
46.73%
                                                                                                                                                   Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                      23
                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           64
```

```
В
                                                                 Q
                                                                                                                                                                                                                                       ; NAME/KEY: CDS
; LOCATION: (18)...(641)
US-09-794-257-7
, ۵
                                                                                             US-09-820-003A-2 (1-173) x US-09-794-257-7 (1-1161)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                        Query Match:
                                                                                                                                                     Best Local Similarity:
                                                                                                                                                                                  Score:
                                                                                                                                                                                                            Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-794-257-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                     Percent Similarity:
                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
APPLICANT: Meyers, Rachel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 7, Application US/09794257 Patent No. US20020009804A1
                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: 32705, 23224, 27423, TITLE OF INVENTION: Human G-proteins FILE REFERENCE: 35800/209285
CURRENT APPLICATION NUMBER: US/09/794,257
CURRENT FILLING DATE: 2001-02-27
PRIOR APPLICATION NUMBER: 60/185,606
PRIOR FILING DATE: 2000-02-29
                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 16
SOFTWARE: FastSEQ for Windows Version
                                                                                                                                                                                                                                                                                                           TYPE: DNA
                                                                                                                                                                                                                                                                                             ORGANISM: homo sapiens
                                                                                                                                                                                                                                                                                 FEATURE:
                                                                                                                                                                                                                                                                                                                            ENGTH:
                                                                                                                                                                                                 М
...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541 AATTCAGCAGGAGCAGGT-----GGACCAGTGAAAATAACAGAAAA-CCGATCAAAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301 AATTGGATCAGAAACATTGAAGAGCATGCCTCTTCCGATGTCGAAAGAATGATCCTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241 GCCATGGGCATTATGCTGGTCTATGACATCACAAATGAAAAATCCTTTGACAATATTAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                        18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 44 IleGlyValAspPheLysIleArgThrIleGluLeuAspGlyLysThrIleLysLeuGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
          24 LysSerCysLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyrIleSerThr
                                    AlaThrAlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGln 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SerPheMetThrMetAlaAlaGluIle------LysLysArgMetGlyProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACAAATGTGATATGAATGACAAAAGACAAGTGTCAAAAGAAGAGGGGAGAAGCTAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGluPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeuValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATATGGGACACAGCGGGTCAGGAAAGATTCCGAACAATCACGACAGCGTACTACAGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGACCTGCCTCCTGTTCCGCTTCTCAGAGGACGCCTTCAACACCACCTTCATCTCCACC
                                                                                                                                                                                                                                                                                                                          1161
                                                                                                                       5.03e-45
414.00
60.50%
43.50%
46.73%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23224, 27423, 32700,
                                                                                                                                                     Conservative: Mismatches:
                                                                                                                                                                                 Length:
Matches:
                                                                                                                                      Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----GluSerPheAsnAsnValLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 32712, No. US20020009804A1e1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              . 593
           43
                                       77
                                                                23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  64
```

:

```
APPLICANT: Lilie, James
APPLICANT: Brown, Jeffrey
APPLICANT: Bolt, Andrew
APPLICANT: Bolt, Andrew
APPLICANT: Bolt, Andrew
APPLICANT: Bolt, Christophe
TITLE OF INVENTION: NOVEL GENES, COMPOSITIONS AND
TITLE OF INVENTION: FOR THE IDENTIFICATION, ASSE
TITLE OF INVENTION: OF HUMAN CANCERS
FILE REFERENCE: MRI-016B
CURRENT APPLICATION NUMBER: US/09/834,975
CURRENT FILING DATE: 2001-04-13
PRIOR APPLICATION NUMBER: 60/197,538
PRIOR APPLICATION NUMBER: 60/197,538
PRIOR FILING DATE: 2000-04-14
NUMBER OF SEQ ID NOS: 1046
SOFTWARE: FASTSEQ for Windows Version 4.0
SEQ ID NO 879
LENGTH: 2497
                                                                                                                                                              NAME/KEY: misc_feature; LOCATION: (1)...(2497); OTHER INFORMATION: n = US-09-834-975-879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
US-09-820-003A-2 (1-173) x US-09-834-975-879 (1-2497)
                                              Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 10
US-09-834-975-879
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                               Best Local Similarity:
                                                                               Percent Similarity:
                                                                                                                 Pred. No.:
                                                                                                                                Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 879, Application US/09834975 Patent No. US20020110815A1
                                                                                                                                                                                                                                         TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 558 AATTCAGCAGGAGCAGGT------GGACCAGTGAAAATAACAGAAAA-CCGATCAAAGAA 610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTGGATCAGAAACATTGAAGAGCATGCCTCTTCCGATGTCGAAAGAATGATCCTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AlaThrAlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGln
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTGACTATGGGATTAAATTCTTGGAGACAAGCGCAAAATCCAGTGCAAATGTAGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGluPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCCATGGGCATTATGCTGGTCTATGACATCACAAATGAAAAATCCTTTGACAATATTAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ile-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGACCTGCCTGCTGTTCCGCTTCTCAGAGGACGCCTTCAACACCACCTTCATCTCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SerPheMetThrMetAlaAlaGluIle-----LysLysArgMetGlyProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AACAAATGTGATATGAATGACAAAAGACAAGTGTCAAAAGAAGAGGGGGAGAAGCTAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeuValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATATGGGACACAGCGGGTCAGGAAAGATTCCGAACAATCACGACAGCGTACTACAGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.51e-44
414.00
60.50%
43.50%
46.73%
                                                                                                                                                                              A,T,C
                                                                                                                                                                             or
                                            Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----GluSerPheAsnAsnValLys
                                                                                                                                                                                                                                                                                                                                                                                                                                       ASSESSMENT,
                                                                                                                                                                                                                                                                                                                                                                                                                                        PREVENTION,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        64
                                                                                                                                                                                                                                                                                                                                                                                                                                        AND THERAPY
```

r,

152

24 92

212

44

64

```
RESULT 11
US-09-834-975-885
; Sequence 885, Ap
                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/834,975
CURRENT FILING DATE: 2001-04-13
PRIOR APPLICATION NUMBER: 60/197,538
PRIOR FILING DATE: 2000-04-14
NUMBER OF SEQ ID NOS: 1046
SOFTWARE: FASTSEQ FOR WINDOWS Version 4.0
SEQ ID NO 885
LENGTH: 2497
TYPE: DNA
        Alignment Scores: Pred. No.: Score:
                                                                              US-09-834-975-885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 885, Application US/09834975
Patent No. US20020110815A1
                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Brown, Jeffrey
APPLICANT: Bolt, Andrew
APPLICANT: Van Huffel, Christophe
APPLICANT: Van Huffel, Christophe
TITLE OF INVENTION: NOVEL GENES, COMPOSITIONS AND METHODS
TITLE OF INVENTION: FOR THE IDENTIFICATION, ASSESSMENT, P
TITLE OF INVENTION: OF HUMAN CANCERS
FILE REFERENCE: MRI-016B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Lillie, James
                                                                                                                                                 TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
                                                                                           NAME/KEY: misc_feature
LOCATION: (1)...(2497)
OTHER INFORMATION: n = A,T,C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 148 AlaThrAlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGln 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    392 AATTGGATCAGAAACATTGAAGAGCATGCCTCTTCCGATGTCGAAAGAATGATCCTGGGT 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          332 GCCATGGGCATTATGCTGGTCTATGACATCACAAATGAAAAATCCTTTGACAATATTAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       632 AATTCAGCAGGAGCAGGT-----GGACCAGTGAAAATAACAGAAAA-CCGATCAAAGAA 684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  272 ATATGGGACACAGCGGGTCAGGAAAGATTCCGAACAATCACGACAGCGTACTACAGAGGA 331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SerPheMetThrMetAlaAlaGluIle------LysLysArgMetGlyProGly 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AACAAATGTGATATGAATGACAAAAGACAAGTGTCAAAAAGAAGAGGGGGAGAAGCTAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGluPheAla 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeuValGly 91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             71 GluSerPheAsnAsnValLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGACCTGCCTCCTGTTCCGCTTCTCAGAGGACGCCTTCAACACCACCTTCATCTCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyrIleSerThr 43
      1.51e-44
414.00
                                                                                                  or,
                                                                                                  G
      Length:
Matches
      2497
87
                                                                                                                                                                                                                                                                                                                                                                                               PREVENTION,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23
                                                                                                                                                                                                                                                                                                                                                                                                 AND THERAPY
                                                                     APPLICANT: Brown, Jeffrey

APPLICANT: Brown, Jeffrey

APPLICANT: Brown, Jeffrey

APPLICANT: Brown, Jeffrew

APPLICANT: Brown, Jeffrew

APPLICANT: Van Huffel, Christophe

TITLE OF INVENTION: NOVEL GENES, COMPOSITIONS AND METHODS

TITLE OF INVENTION: OF HUMAN CANCERS

TITLE OF INVENTION: OF HUMAN CANCERS

FILE REFERENCE: MAI-016B

CURRENT APPLICATION NUMBER: 40,709/834,975

CURRENT FILING DATE: 2001-04-13

PRIOR APPLICATION WHERE: 60,197,538

PRIOR APPLICATION HUMBER: 60,197,538

PRIOR APPLICATION HUMBER: 60,197,538

PRIOR FILING DATE: 2000-04-14

NUMBER OF SEQ ID NOS: 1046

SOFTWARE: FASTEDE for Windows Version 4.0

SEQ ID NO 894

LENGTH: 2497

TYPE: DAA

OPCANTSW. HUMAN CARLORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 12
US-09-834-975-894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-820-003A-2 (1-173) x US-09-834-975-885 (1-2497)
                                                                                                                                                                                                                                                                                                                                                                                             Sequence 894, Applic Patent No. US2002011 GENERAL INFORMATION:
ORGANISM: Homo sapiens FEATURE: NAME/KEY: misc_feature LOCATION: (1)...(2497)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          632 AATTCAGCAGGAGCAGGT------GGACCAGTGAAAATAACAGAAAA-CCGATCAAAGAA 684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          148 AlaThrAlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGln 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            64 Ile-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsnValGluGln 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MetAsnProGluTyrAspTyrLeuPheLysLeuLeuIleGlyAspSerGlyValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTGACTATGGGATTAAATTCTTGGAGACAAGCGCAAAATCCAGTGCAAATGTAGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AATTGGATCAGAAACATTGAAGAGCATGCCTCTTCCGATGTCGAAAGAATGATCCTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeuValGly 91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCCATGGGCATTATGCTGGTCTATGACATCACAAATGAAAAATCCTTTGACAATATTAAA 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ------GluSerPheAsnAsnValLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGACCTGCCTCCTGTTCCGCTTCTCAGAGGACGCCTTCAACACCACCTTCATCTCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LysSerCysLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyrIleSerThr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGGCGAAGACGTACGATTATCTCTTCAAGCTCCTGCTGATCGGCGACTCGGGGGTAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerPheMetThrMetAlaAlaGluIle------LysLysArgMetGlyProGly 147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGluPheAla 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATATGGGACACAGCGGGTCAGGAAAGATTCCGAACAATCACGACAGCGTACTACAGAGGA 331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               04, Application US/09834975
US20020110815A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60.50%
43.50%
46.73%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative: Mismatches: Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            34
41
39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               151
```

밁 õ 뫄 Š 밁 δ. B δÃ 밁 δÃ B Š В Ş ₽ Ş 밁 õ B Ş

> 572 132 512 112 452

92

72

```
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; OTHER INFORMATION: n
US-09-834-975-894
                                                                                   APPLICANT: Brown, Jeffrey
APPLICANT: Bolt, Andrew
APPLICANT: Van Huffel, Christophe
TITLE OF INVENTION: MOVEL GENES, COMPOSITIONS A
TITLE OF INVENTION: FOR THE IDENTIFICATION, AS
TITLE OF INVENTION: OF HUMAN CANCERS
FILE REFERENCE: MRI-016B
CURRENT APPLICATION NUMBER: US/09/834,975
CURRENT FILING DATE: 2001-04-13
                                                                                                                                                                                                                                                                                 US-09-834-975-896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-820-003A-2 (1-173) x US-09-834-975-894 (1-2497)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Alignment Scores: Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score
                  SEQ
                                                                                                                                                                                                                       GENERAL INFORMATION:
APPLICANT: Lillie,
                                                                                                                                                                                                                                                    Sequence 896, Application Patent No. US20020110815A1
               PRIOR APPLICATION NUMBER: 60/197,538
PRIOR FILING DATE: 2000-04-14
NUMBER OF SEQ ID NOS: 1046
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       212
                                                                                                                                                                                                                                                                                                                                                                                                               132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4 MetAsnProGluTyrAspTyrLeuPheLysLeuLeuLeuIleGlyAspSerGlyValGly
¥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LysSerCysLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyrIleSerThr
                                                                                                                                                                                                                                                                                                                            AATTCAGCAGGAGCAGGT - - -
                                                                                                                                                                                                                                                                                                                                                      AlaThrAlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGln 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCCATGGGCATTATGCTGGTCTATGACATCACAAATGAAAAATCCTTTGACAATATTAAA
                                                                                                                                                                                                                                                                                                                                                                                  SerPheMetThrMetAlaAlaGluIle------LysLysArgMetGlyProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTGACTATGGGATTAAATTCTTGGAGACAAGCGCAAAATCCAGTGCAAATGTAGAAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AACAAATGTGATATGAATGACAAAAGACAAGTGTCAAAAGAAGAGGGGGAGAAGCTAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGluPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AATTGGATCAGAAACATTGAAGAGCATGCCTCTTCCGATGTCGAAAGAATGATCCTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeuValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATATGGGACACAGCGGGTCAGGAAAGATTCCGAACAATCACGACAGCGTACTACAGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ile-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAGACCTGCCTCCTGTTCCGCCTTCTCAGAGGACGCCTTCAACACCACCTTCATCTCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGCGAAGACGTACGATTATCTCTTCAAGCTCCTGCTGATCGGCGACTCGGGGGTAGGC
                                                                                                                                                                                                                         James
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1.51e-44
414.00
60.50%
43.50%
46.73%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A,T,C
                                                                                                                                                                                                                                                                US/09834975
                                                                                                                                                                                                                                                                                                                            ---GGACCAGTGAAAATAACAGAAAA-CCGATCAAAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              or
P
                                                                                                                                                              COMPOSITIONS AND METHODS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -----GluSerPheAsnAsnValLys
                                                                                                                                                ASSESSMENT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2497
87
34
41
39
3
                                                                                                                                              PREVENTION, AND THERAPY
                                                                                                                                                                                                                                                                                                                            684
                                                                                                                                                                                                                                                                                                                                                                                                              147
                                                                                                                                                                                                                                                                                                                                                                                                                                            571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23
                                                                                                                                                            RESULT 14
US-09-925-300-631
; Sequence 631, Application US/09925300
; Patent No. US20020151681A1
                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                      ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; NAME/KEY: misc_feature
; LOCATION: (1)...(2497)
; OTHER INFORMATION: n =
US-09-834-975-896
                                                                                                                                                                                                                                     뮹
                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-820-003A-2 (1-173) x US-09-834-975-896 (1-2497)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores:
                                                                                                                                                GENERAL INFORMATION:
            CURRENT APPLICATION NUMBER: US/09/925,300
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05988
PRIOR FILING DATE: 2000-03-08
PRIOR APPLICATION NUMBER: 60/124,270
                                                                                     APPLICANT: Craig Rosen,
APPLICANT: Steve Ruben
TITLE OF INVENTION: Nucleic Acids, Proteins
FILE REFERENCE: PA101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               No.:
                                                                                                                                                                                                                                                                  148
                                                                                                                                                                                                                                                                                               572
                                                                                                                                                                                                                                                                                                                                                       512
                                                                                                                                                                                                                                                                                                                                                                                                               452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         392
                                                                                                                                                                                                                                     632 AATTCAGCAGGAGCAGGT-----GGACCAGTGAAAATAACAGAAAA-CCGATCAAAGAA
                                                                                                                                                                                                                                                                                                                                                                                  112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          152 AAGACCTGCCTCTGTTCCGCTTCTCAGAGGACGCCTTCAACACCACCTTCATCTCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                           92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4 MetAsnProGluTyrAspTyrLeuPheLysLeuLeuIleGlyAspSerGlyValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AATTGGATCAGAAACATTGAAGAGCATGCCTCTTCCGATGTCGAAAGAATGATCCTGGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ### TGGCGAAGACGTACGATTATCTCTTCAAGCTCCTGCTGATCGGCGACTCGGGGGTAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA
                                                                                                                                                                                                                                                                AlaThrAlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGln
                                                                                                                                                                                                                                                                                             ATTGACTATGGGATTAAATTCTTGGAGACAAGCGCAAAATCCAGTGCAAATGTAGAAGAG
                                                                                                                                                                                                                                                                                                                                                                     AACAAATGTGATATGAATGACAAAAGACAAGTGTCAAAAGAAGAGGGGGAGAAGCTAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeuValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SerPheMetThrMetAlaAlaGluIle------LysLysArgMetGlyProGly
                                                                                                                                                                                                                                                                                                                                                                                                                                         AsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLysGluPheAla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCCATGGGCATTATGCTGGTCTATGACATCACAAATGAAAAATCCTTTGACAATATTAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATATGGGACACAGCGGGTCAGGAAAGATTCCGAACAATCACGACAGCGTACTACAGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.51e-44
414.00
60.50%
43.50%
46.73%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A, T, C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         얁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                     Antibodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2497
87
34
41
39
```

167

147 631

684

```
δ
                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                   RESULT 15
US-09-925-302-91
                                                                                       밁
                                                                                                          δ
                                                                                                                                      밁
                                                                                                                                                                                     밁
                                                                                                                                                                                                                                   멍
                                                                                                                                                                                                                                                         ő
                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                         δõ
                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                             ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                   ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-820-003A-2 (1-173) x US-09-925-300-631 (1-1537)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment Scores: Pred. No.: Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
NAME/KEY: misc feature
LOCATION: (5)
OTHER INFORMATION: n equals
US-09-925-300-631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Percent Similarity:
Sequence 91, Application US/09925302
Patent No. US20020044941A1
GENERAL INFORMATION:
APPLICANT: Rosen et al.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 1890
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH:
                                                                                      1091 AGCAGTGGAGGAGGCGTGACAGGCTGGAAGAGCAAATGCTGC
                                                                                                                                       1043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      168 ---SerGlyGlyGly------CysCys 173
                                                                                                                                                               156
                                                                                                                                                                                                             136 MetAlaAlaGluIleLysLysArgMetGlyProGlyAlaThrAlaGlyGlyAlaGluLys 155
                                                                                                                                                                                                                                      968
                                                                                                                                                                                                                                                               116
                                                                                                                                                                                                                                                                                        908
                                                                                                                                                                                                                                                                                                                                        848
                                                                                                                                                                                                                                                                                                                                                                                        788
                                                                                                                                                                                                                                                                                                                                                                                                                                        728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         809
                                                                                                                                                                                                                                                                                                                 96
                                                                                                                                                                                                                                                                                                                                                                 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                48
                                                                                                                                                                                                                                                                                                                                                                                                                 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LeuLeuArgPheAlaAspAspThrTyrThrGluSerTyrIleSerThrIleGlyValAsp 47
||| |||||:::||||| :::
CTTTTTCGTTTTTCGGATGATGCCTTCAATACTACCTTTATTTCCACCATAGGAATAGAC 66
                                                                                                                                                    TTAGCTGAAGATATC ---------------
                                                                                                                                                                                                                                      ATTAGGTTTTTTGAGACTAGTGCAAAAGCAAATATAAACATCGAAAAGGCGTTCCTCACG 1027
                                                                                                                                                                                                                                                      IleProPheLeuGluThrSerAlaLysAsnAlaThrAsnValGluGlnSerPheMetThr 135
                                                                                                                                                                                                                                                                                      ATGGACGACAAAAGAGTTGTACCTAAAGGAAAAGGAGAACAGATTGCAAGGGAGCATGGT 967
                                                                                                                                                                                                                                                                                                              LeuThrThrLysLysValValAspTyrThrThrAlaLysGluPheAlaAspSerLeuGly 115
                                                                                                                                                                                                                                                                                                                                       AACATAGATGAGCATGCCAATGAAGATGTGGAAAGAATGTTACTAGGAAACAAGTGTGAT 907
                                                                                                                                                                                                                                                                                                                                                       GluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeuValGlyAsnLysCysAsp 95
                                                                                                                                                                                                                                                                                                                                                                                       ATGCTAGTATATGACATCACCAATGGTAAAAGTTTTGAAAACATCAGCAAATGGCTTAGA 847
                                                                                                                                                                                                                                                                                                                                                                                                       -----GluSerPheAsnAsnValLysGlnTrpLeuGln 75
                                                                                                                                                                                                                                                                                                                                                                                                                                       GCAGGCCAGGAGCGATTTCACACCATCACAACCTCCTACTACAGAGGCGCAATGGGTATC 787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTCAAGATCAAAACAGTTGAATTACAAGGAAAGAAGATCAAGCTACAGATATGGGATACA 727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1537
                                                                                                                                      -CTTCGAAAGACCCCTGTAAAAGAGCCCAACAGTGAAAATGTAGATATC 1090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1.79e-43
403.50
54.67%
39.72%
45.54%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a,t,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ģ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               or
                                                                                       1132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1537
85
32
30
67
                                                                                                                                                                                      1042
                                                                                                                                                             167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                27
```

```
FEATURE:

NAME/KBY misc feature

LOCATION: (1264)

OTHER INFORMATION: n equals a,t,g, or

NAME/KBY: misc feature

LOCATION: (1268)

OTHER INFORMATION: n equals a,t,g, or

US-09-925-302-91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/09/925,302
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05918
PRIOR FILING DATE: 2000-03-08
PRIOR FILING DATE: 2000-03-08
PRIOR TILING DATE: 1999-03-12
PRIOR TILING DATE: 1999-03-12
NUMBER OF SEO ID NOS: 896
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 91
LENGTH: 1274
                                                  밁
                                                                            δã
                                                                                                        Вb
                                                                                                                                     8
                                                                                                                                                                밁
                                                                                                                                                                                           δõ
                                                                                                                                                                                                                      ДĎ
                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                             VΩ
                                                                                                                                                                                                                                                                                                                                                                      QY
                                                                                                                                                                                                                                                                                                                                                                                                                              Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Percent Similarity:
Best Local Similarity:
Query Match:
B 8
                                                                                                                                                                                                                                                                                  Ъ
                                                                                                                                                                                                                                                                                                                                           Ър
                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Alignment Scores:
Pred. No.:
Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-820-003A-2 (1-173) x US-09-925-302-91 (1-1274)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies FILE REFERENCE: PA104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 1274
TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                         483
                                                                                                                                                                                                                               423
                                                                                                                                                                                                                                                                                                                                              303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 183
                                                                                                                                                                                                                                                                                       363 TACCGTGGAGCCATGGGCATTATCCTAGTATACGACATCACGGATGAGAAATCTTTCGAG
                                                                                                                                                                                                                                                                                                                                                                                                        243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        123 GTGTCCGCCATGGCCAAAGCCTACGACCACCTCTTCAAGTTGCTGCTGATCGGGGACTCG
                                                                                                                                                                                                                                                            69
                                                                                                                                                                                                                                                                                                                                                                                                                         41 IleSerThrIleGlyValAspPheLysIleArgThrIleGluLeuAspGlyLysThrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21 GlyValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyr
                                                                                                                                                                                                                                                                                                                                                                           61 LysLeuGlnIle------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ThrAlaGlyGlyAlaGluLys 155
                                                                                                               TTGCTGGGGAACAATGTGACATGGAGGCCAAGAGGAAGGTGCAGAAGGAGCAGGCCGAT
                                                                                                                                                                                     AGATCAGGAAACGGCAACAAG
                                                       GTGGATGAGGCTTTTAGTTCCCTGGCCCGGGACATCTTGCTCAAGTCAGGA---GGCCGG
                                                                               ValGluGlnSerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAla 148
                                                                                                                                                                                                                               AATATTCAGAACTGGATGAAAAGCATCAAGGAGAATGCCTCGGCTGGGGTGGAGCGCCTC
                                                                                                                                                                                                                                                        AsnValLysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeu
                                                                                                                                                                                                                                                                                                                                              AAACTACAAGTCTGGGACACGGCTGGCCAAGAGCGGTTCAAGACAATAACTACTGCCTAC
                                                                                                                                                                                                                                                                                                                                                                                                      ATCTCCACCATCGGAATTGATTTCAAGATCCGCACTGTGGATATAGAGGGGAAGAAGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                GGGGTGGGCAAGACTTGTCTGATCATTCGCTTTGCAGAGGACAACTTCAACAACACTTAC
                                                                                                                                                                                                                                                                                                                  -----GluSerPheAsn 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6.9e-42
390.50
60.43%
41.71%
44.07%
680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ဝူ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                  108
                                                       659
                                                                                                                                                                       542
                                                                                                                                                                                                                             482
                                                                                                                                                                                                                                                        88
                                                                                                                                                                                                                                                                                       422
                                                                                                               602
                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           40
                                                                                                                                                                                                                                                                                                                                                                          64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20
```

Search completed: November 17, 2002,  $\cdot 14\!:\!31\!:\!59$  Job time : 62 secs

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9n:
          Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
        849
812.5
771.5
773.6
660
658.5
646.5
646.5
631.5
631.5
623.5
619.5
619.5
619.5
619.5
619.5
619.5
619.5
619.5
619.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PIR_73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-820-003A-2
886
1 MSSMNPEYDYLFKLLLIGDS.....EKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               November 17, 2002, 13:01:57; Search time 43 Seconds (without alignments) 386.773 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                283224 segs, 96134422 residues
          Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
        GenCore version 5.1.3 (c) 1993 - 2002 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DВ
        TVHICY
TVHICY
TVHICY
TVHICY
TVHICY
TO THE TO
S38339
JEO318
T33781
T33781
T33781
T33781
T33781
T33781
T44105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   283224
GTP-binding protei GTP-binding grotei GTP-binding protei GTP-binding G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Description
```

Similarity 84.4%; Pred. No. 2.2e-62; 3; Conservative 0; Mismatches 0; Indels 32; MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGK7	rocein Rabl, splice variant con factor Tu homology <etud (by="" (covalent)="" (cys)="" (lys,="" (p-loop)="" 1:="" 205:<="" a="" a60.="" b="" cdc2="" cle:="" covalent)="" dr="" fstatus="" kinase)="" length="" mg-gtp="" ser,="" th="" the="" thif="" thr.="" yl=""><th>rotein transport from the sin; translation elongation lgi apparatus; GTP binding lgi apparatus; GTP binding</th><th>1209; NID:g550059; PIDN:AAA60240.1; W.m. Gassenhuber, J.; Wiemann, S. abase, March 1999</th><th>TVHTYP  GTP-binding protein Rabl - human  N;Alternate names: protein DKFZp564B163.1  C;Species: Homo sapiens (man)  C;Date: 29-dun-1990 #sequence_revision 06-Dec-1996 #text_change 19-Jan-20  C;Accession: A34323; T08698  R;Zahraoui, A.; Touchot, N.; Chardin, P.; Tavitian, A.  J. Biol. Chem. 264, 12394-12401, 1989  A;Title: The human Rab genes encode a family of GTP-binding proteins rela  A;Reference number: A34323; MUID:89308668; PMID:2501306  A;Accession: A34323</th><th>ALIGNMENTS</th><th>30 461 52.0 203 2 B34716 31 447 50.5 216 2 T48378 GTP-binding pr 32 442 49.9 215 2 T14565 32 48.2 49.9 215 2 S57478 GTP-binding pr 34 48.5 49.5 216 2 S57478 GTP-binding pr 35 435.5 49.5 216 2 S57478 36 430.5 49.2 200 2 S12790 GTP-binding pr 37 429.5 48.5 216 2 S57462 GTP-binding pr 38 429.5 48.5 216 2 S57471 GTP-binding pr 39 429.5 48.5 216 2 S57474 GTP-binding pr 41 425.5 48.1 216 2 S57474 GTP-binding pr 42 418 47.2 207 2 B45647 GTP-binding pr 43 418 47.2 207 2 B45647 GTP-binding pr 43 418 47.2 207 2 B45646 GTP-binding pr 44 410.5 46.3 206 2 178851 45 409.5 46.2 209 2 B36625 GTP-binding pr</th></etud>	rotein transport from the sin; translation elongation lgi apparatus; GTP binding lgi apparatus; GTP binding	1209; NID:g550059; PIDN:AAA60240.1; W.m. Gassenhuber, J.; Wiemann, S. abase, March 1999	TVHTYP  GTP-binding protein Rabl - human  N;Alternate names: protein DKFZp564B163.1  C;Species: Homo sapiens (man)  C;Date: 29-dun-1990 #sequence_revision 06-Dec-1996 #text_change 19-Jan-20  C;Accession: A34323; T08698  R;Zahraoui, A.; Touchot, N.; Chardin, P.; Tavitian, A.  J. Biol. Chem. 264, 12394-12401, 1989  A;Title: The human Rab genes encode a family of GTP-binding proteins rela  A;Reference number: A34323; MUID:89308668; PMID:2501306  A;Accession: A34323	ALIGNMENTS	30 461 52.0 203 2 B34716 31 447 50.5 216 2 T48378 GTP-binding pr 32 442 49.9 215 2 T14565 32 48.2 49.9 215 2 S57478 GTP-binding pr 34 48.5 49.5 216 2 S57478 GTP-binding pr 35 435.5 49.5 216 2 S57478 36 430.5 49.2 200 2 S12790 GTP-binding pr 37 429.5 48.5 216 2 S57462 GTP-binding pr 38 429.5 48.5 216 2 S57471 GTP-binding pr 39 429.5 48.5 216 2 S57474 GTP-binding pr 41 425.5 48.1 216 2 S57474 GTP-binding pr 42 418 47.2 207 2 B45647 GTP-binding pr 43 418 47.2 207 2 B45647 GTP-binding pr 43 418 47.2 207 2 B45646 GTP-binding pr 44 410.5 46.3 206 2 178851 45 409.5 46.2 209 2 B36625 GTP-binding pr
O)	#stat Asn, L #statu exper	endoplasmic reticulum factor Tu homology ; lipoprotein; membran	240.1 S.	t.		binding protei

```
F;12-127/Domain: translation elongation factor Tu homology <FTU>
F;18-25/Region: nucleotide-binding motif A (P-loop)
F;62-67/Region: nucleotide-binding motif B
F;124-127/Region: GTP-binding NKXD motif
F;124-15/Region: GTP-binding NKXD motif
F;154-56/Region: GTP-binding SAK/L motif
F;154-25.43,124,125,127,154/Binding site: Mg-GTP (Lys, Ser, Thr, Asn, Lys, Asp, F;244,25.43,124,125,127,174/Binding site: Mg-GTP (Lys, Ser, Thr, Asn, Lys, Asp, F;194/Binding site: phosphate (Ser) (covalent) (by cdc2 kinase) #status predicted
F;204,205/Binding site: geranyl-geranyl (Cys) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Cross-references: EMBL:x56384
A; Cross-references: EMBL:x56384
R; Chavrier, P.; Vingron, M.; Sander, C.; Simons, K.; Zer
Mol. Cell. Biol. 10, 6578-6585, 1990
A; Title: Molecular cloning of YPT1/SEC4-related cDNAs fi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYDGYP
GTP-binding protein Rabl - dog
G;Species: Canis lupus familiaris (dog)
C;Species: 19-reb-1994 *sequence_revision
C;Accession: S19104; A36364; S15600
R;Zerial, M.
                      RESULT
TVMSYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Description: probably involved in protein transport from the endoplasmic reticulum C;Superfamily: ras transforming protein; translation elongation factor Tu homology C;Keywords: endoplasmic reticulum; Golgi apparatus; GTP binding; lipoprotein; membran
                                                                                                              吊
                                                                                                                                           õ
                                                                                                                                                                                            g
                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                망
                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Reference number: A36364; MUID:91061765; A;Accession: A36364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: mRNA
A; Residues: 1-205 <ZER>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         submitted to the EMBL Data A; Reference number: $19104 A; Accession: $19104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: GB:X56384;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: mRNA
A;Residues: 1-157,'EK',160-205 <CHA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Status: nucleic acid sequence not shown
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                              181
                                                                                                                                                    149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                              w
                                                                                                                                                                                                                                        89
                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                         1 MSSMNPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTIGYDFKIRTIELDGKTI 60
Ĉ
                                                                                                                                                                                                                                                                                                                             KLQI----
                                                                                                                                                                                                                                                                                                                                                                  MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TAGGAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TAGGAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                TAGGAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA 148
                                                                                                                                                                                                                                                                              KLQIWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLQEIDRYASENVNKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TAGGAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KLQI----
                                                                                                                                                                                          LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      97.1%;
84.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Library, August 1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NID:g913
                                                                                                                                                                                                                                                                                                                                                                                                                                                    0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 860; DE Pred. No. 2.2e 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-Dec-1996 #text_change 19-Jan-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 1;
.2e-62;
                                                                                                                                                                                                                                                                                                                      ESFNNVKQWLQEIDRYASENVNKL 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ESFNNVKQWLQEIDRYASENVNKL 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 205;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Zerial,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               from
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             epithelial cell line
                                                                                                                                                                                                                                                                                                                                                                                                                                                    32;
                                                                                                                                                                                            . 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ser)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 #sta
                                                                                                                                                                                     GTP-binding protein Rabl - rat
N;Alternate names: transforming protein yptl homolog
C;Species: Rattus norvegicus (Norway rat)
C;Date: 03-Aug-1992 #sequence_revision 06-Dec-1996 #:
C;Accession: A39963
                                                              A; Molecule type:
                                                                                  A; Reference number: A39963; MUID:88068563; A; Accession: A39963
                                                                                                                            R;Touchot, N.; Chardin, P.; Tavitian, A. Proc. Natl. Acad. Sci. U.S.A. 84, 8210-8214, 1987 A;Title: Four additional members of the ras gene
                                          A; Residues: 1-205
                                                                                                                                                                                                                                                                                                    TVRTYP
```

mRNA

<TOU> GB:J02998;

NID:g206552;

PIDN: AAA42006.1;

PID:g206553

06-Dec-1996 #text_change

19-Jan-2001

s gene superfamily PMID:3317403

isolated by

an

oligonucl

```
A;Reference number: S06285; MUID:88166649; A;Accession: S06285
                                                                                                                                                                                                                                                                                                                                                                                                         F;18-25/Region: nucleotide-binding motif A (P-lo F;62-67/Region: nucleotide-binding motif B F;124-127/Region: GTP-binding NKXD motif F;124-156/Region: GTP-binding SAK/L motif F;24-25,43,124,125,127,154/Binding site: Mg-GTP F;194/Binding site: phosphate (Ser) (covalent) (F;204,205/Binding site: geranyl-geranyl (Cys) (cys)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 R;Wichmann, H.; Disela, C.; Haubruck, H.; Gallwitz, D. Nucleic Acids Res. 17, 6737-6738, 1987 Aprile: Nucleotide sequence of the mouse yptl gene encoding A;Reference number: S05551; MUID:89386011; PMID:2506528 A;Accession: S05551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Description: probably involved in protein transport from the endoplasmic reticulum C;Superfamily: ras transforming protein; translation elongation factor Tu homology C;Keywords: endoplasmic reticulum; Golgi apparatus; GTP binding; lipoprotein; membra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Molecule type: DNA
A;Residues: 1-205 <WIC>
A;Residues: 1-205 <WIC>
A;Cross-references: EMBL:X15744; NID:g55458; PIDN:CAA33760.1;
R;Haubruck, H.; Disela, C.; Wagner, P.; Gallwitz, D.
EMBO J. 6, 4049-4053, 1987
밁
                                  ρ
                                                                               В
                                                                                                                 δÃ
                                                                                                                                                               В
                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: mRNA
A; Residues: 1-205 <HAU>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C; Accession: S05551; S06285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTP-binding protein ypt1 - mouse N; Alternate names: GTP-binding protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C; Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Introns: 8/2; 32/3; 64/3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Gene: yptl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C; Genetics:
                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Species: Mus musculus (house mouse)
Date: 31-Mar-1991 #sequence_revision
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12-127/Domain: translation elongation
                                        149
                                                                                 121
  181
                                                                                                                        89
                                                                                                                                                                 61
                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                    MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI
                                                                                                                                                                                                          KLQI---
TAGGAEKSNVKIQSTPVKQSGGGCC
                                      TAGGAEKSNVKIQSTPVKQSGGGCC 173
                                                                             MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI
                                                                                                                        LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA 148
                                                                                                                                                               KLQIWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLQEIDRYASENVNKL
                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                 97.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96/3; 140/3
                                                                                                                                                                                                                                                                                                                              Score 860; DB 1;
Pred. No. 2.2e-62;
0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rab1; ras-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31-Mar-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           factor Tu homology <ETU>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ubiquitous eukaryotic protein: PMID: 3127202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (P-loop)
                                                                                                                                                                                    --ESFNNVKQWLQEIDRYASENVNKL 88
                                                                                                                                                                                                                                                                                                                                                                                                             (covalent) #status
                                                                                                                                                                                                                                                                                                                                                                                                                                   (by
                                                                                                                                                                                                                                                                                                                                                                                                                                   (Lys, Ser, Thr, Asn, Ly
(by cdc2 kinase) #status
                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                #text_change
                                                                                                                                                                                                                                                                                                                                                                  Length 205
                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PID: 9763158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ras-related GTP-bindin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19-Jan-2001
                                                                                                                                                                                                                                                                                                                                32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ypt1;
                                                                                                                                                                                                                                                                                                                                                                                                               predicted
                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Lys,
                                                                                 180
                                                                                                                                                                                                                                                                                       60
                                                                                                                                                               120
                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         transforming
                                                                                                                                                                                                                                                                                                                                                                                                                                   s, Asp, Ser)
predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 isolation
                                                                                                                                                                                                                                                                                                                                1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ۵
```

```
R: Ngsee, J.K.; Elferink, L.A.; Scheller, R.H.

J. Sidl. Chem. 266, 2675-2680, 1991
A; Title: A family of ras-like GTP-binding proteins expressed in electromotor ne A; Title: A family of ras-like GTP-binding proteins expressed in electromotor ne A; Reference number: A38625; MUID:91115900; PMID:1899244
A; Restatus: preliminary
A; Molecule type: mRNA
A; Restidues: 1-201 <NGS>
A; Cross-references: GB:M8393
A; Cross-references: GB:M8393
C: Superfamily: ras transforming protein; membrane trafficking; nucleotide binding; F:9-124/Domain: translation elongation factor Tu homology <ETU>
F:9-124/Domain: uncleotide-binding month factor Tu homology <ETU>
F:15-72/Region: GTP-binding NXD motif
F:21.124/Region: GTP-binding NXD motif
F:21.22,40,121,122,124,150/Binding site: Mg-GTP (Lys, Ser, Thr, Asn, Lys, Asp, F:200,201/Binding site: geranyl-geranyl (Cys) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 5

D38625

GTP-binding protein o-rabl - electric ray (Discopyge ommata)
G;Species: Discopyge ommata
C;Species: Discopyge ommata
C;Date: 23-Aug-1991 #sequence_revision 23-Aug-1991 #text_change
C;Accession: D38625
                                                                                   οy
                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     F;12-127/Domain: translation elongation factor Tu homology <ETU>
F;18-25/Region: nuclectide-binding motif A (P-loop)
F;62-67/Region: cTP-binding MXD motif B
F;124-127/Region: GTP-binding MXD motif
F;124-15/Region: GTP-binding SAK/L motif
F;144-15/Region: GTP-binding site: Mg-GTP (Lys, Ser, Thr, Asn, Lys, Asp, Ser)
F;244.25.43,124,125.127,154/Binding site: Mg-GTP (Lys, Ser, Thr, Asn, Lys, Asp, Ser)
F;194/Binding site: phosphate (Ser) (covalent) (by cdc2 Kinase) #status predicted
F;204,205/Binding site: geranyl-geranyl (Cys) (covalent) #status predicted
δõ
                                               밁
                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Function: Cc:Function: Cremertion: probably involved in protein transport from the endoplasmic reticulum thra;Description: probably involved in protein; translation elongation factor Tu homology C;Keywords: endoplasmic reticulum; Golgi apparatus; GTP binding; lipoprotein; membrane p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                         64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hes 171;
  92
                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                           ب
                                                                                                                                                                    4 MNPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTIGYDFKIRTIELDGKTIKLQ 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MSSMNPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTIGYDFKIRTIELDGKTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TAGGAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                     MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TAGGAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNEKNVEQSFMTMAAEIKKRMGPGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KLQIWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLQEIDRYASENVNKL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KLQI-----ESFNVKQWLQEIDRYASENVKL 88
                                            IWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                       91.7%;
Similarity 81.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        95.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 849; DB 1; Length 205;
Pred. No. 1.7e-61;
0; Mismatches 2; Indels
                                                                                                                                                                                                                              Score 812.5; DB 2;
Pred. No. 1.5e-58;
3; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           205
                                                                        ---ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                              DB 2;
                                                                                                                                                                                                                                                                           Length 201;
                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                 33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             electromotor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-Feb-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     32;
                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
151
                                                                                         91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tu homology binding; P-loop;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                Asp,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             neurons.
                                                                                                                                                                                                                                 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1;
                                                                                                                                                                                                                                                                                                                                                Ser)
                                                                                                                                                                                                                                                                                                                                                   #st
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             #st
```

```
FEBS Lett. 256, 79-84, 1989
A; Title: Biochemical properties of the YPT-related rablB pro A; Recession: S06147; MUID:90033316; PMID:2509243
A; Accession: S06147
A; Status: not compared with conceptual translation
A; Residues: 1-201 <TOUD
R; Vielh, E; Toucher
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R;Vielh, E; Touchot, N.; Zahraoui, A.; Tavitian, A.

N;Vielh, E; Touchot, N.; Zahraoui, A.; Tavitian, A.

Nucleic Acids Res. 17, 1770, 1989

A;Title: Nuclectide sequence of a rat cDNA: RABIB, encoding a RABI-YPT related protein pr
Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 6
S06147
S06147
GTP-binding protein rab1B - rat
GTP-binding protein rab1B - rat
GTP-binding protein rab1B - rat
GTP-binding protein rab1B
G:Species: Rattus norvegicus (Norway rat)
C:Date: 30-Sep-1991 #sequence_revision 30-Sep
C:Accession: S06147; S03189
R:Touchot. N.; Zahraoui, A.; Vielh, E.; Tavit
FEBS Lett. 256, 79-84, 1989
                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 156
                                                                                                                                                                                                                                                                                                                                                                                                             152 GAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 NKSDLTTKKVVDNTTAKEFADSLGVPFLETSAKNATNVEQAFMTMAAEIKKRMGPGAASG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180 GSEKSNVNIQSTPVKSSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  152 GAEKSNVKIQSTPVKQSGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            64 I-----ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                           G-ERPNLKIDSTPVKSASGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IWDTAGQERFRTVTSSYYRGAHGIIVVYDVTDQESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NKCDL-TKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQAFMTMAAEIKKRMGPGATSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  87.1%;
77.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            201
                                                                                                                                                                                                                                                                                                                                                                              201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 771.5; DB 2; Pred. No. 3e-55; 6; Mismatches 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30-Sep-1991 #text_change 02-Feb-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    33;
                                                               Rab proteins from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Comparison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2
                                                                                                                     den
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rab
                                                                                                                     Ħ
```

```
C:Superfamily: ras transforming protein; translation elongation factor Tu homology C:Keywords: GTP binding; lipoprotein; nucleotide binding; P-loop; prenylated cysteine F:12-127/Domain: translation elongation factor Tu homology <ETU> F:18-25/Region: nucleotide-binding motif A (P-loop) F:124-127/Region: GTP-binding NKXD motif F:154-156/Region: GTP-binding NKXD motif F:154-156/Region: GTP-binding SKK/L motif F:154-156/Region: GTP-binding Site: Mg-GTP (Lys, Ser, Thr, Asn, Lys, Asp, Ser) #:F:24,25,43,124,125,127,154/Binding site: Mg-GTP (Lys, Ser, Thr, Asn, Lys, Asp, Ser) #:F:204,205/Binding site: geranyl-geranyl (Cys) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references: GB:AF013572
C;Superfamily: ras transforming protein; translation elongation C;Keywords: GTP binding; nucleotide binding; P-loop C;Keywords: translation elongation factor Tu homology <ETU>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
JE0318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Status: preliminary
A; Molecule type: mRNA
A; Residues: 1-205 <AGT>
                      20
                                                             밁
                                                                                             δÃ
                                                                                                                                      В
                                                                                                                                                                                                                                                                                             F;15-22/Region: nucleotide-binding motif A (P-loop)
F;121-124/Region: GTP-binding NKXD motif
F;151-153/Region: GTP-binding SAK/L motif
F;21,22,40,121,122,124,151/Binding site: Mg-GTP (Lys, Ser, Thr, Asn,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Biosci Biotechnol Biochem. 62, 1885-1891, A;Title: Molecular cloning of cDNA for Brai A;Reference number: JE0318; MUID:99053143; A;Accession: JE0318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Species: Bombyx mori (silkworm)
C;Date: 05-Feb-1999 #sequence_revision 05-Feb-1999 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTP-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: mRNA
A; Residues: 1-202 <UNO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C; Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R; Uno, T.; Ueno,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멅
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Cross-references: EMBL:X72688; NID:g288933; PIDN:CAA51233.1; PID:g288934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                        92
                                                                                                    64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 KLQI----
                                                                                                                                                                                                                                        Local
                                                                                                                                          ш
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MSSMNPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTIGYDFKIRTIELDGKTI
                                                                                                                                                                               4
                                                                                                                                                           MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MSTMNPDYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI
                    NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TAGGAEKSNVKI-QSTPVKQSGGGCC 173
IWDTAGQERFRTITSSYYRGAHGIIIVYDCTDQDSFSNVKQWLEEIDRYACDNVNKLLVG
                                                                                                                                      MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTVDLNGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LVGNKSDLTTKKVVDFTTAKEYADQLGIPFLETSAKNATNVEQAFMTMAAEIKNRMGP-I 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KLQIWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLQEIDRYASENVNKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein rabB -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JE0318
                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                M.; Nakajima,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                        75.7%;
66.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            82.7%;
73.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             silkworm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A.; Shirai, Y.; Aizono,
                                                                                                                                                                                                                      18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1885-1891, 1998
NA for BRab from the brain
                                                                                                                                                                                                                                        Score 671;
Pred. No. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 733; DB 2
Pred. No. 4e-52;
                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                 PMID: 9836423
                                                                                                                                                                                                                                        4e-47;
                                                                                                                                                                                                                                                           DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -ESFNNVKQWLQEIDRYASENVNKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13;
                                                                                                                                                                                                                      16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 205;
                                                                                                                                                                                                                                                           Length 202;
                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bombyx
                                                                                                                                                                                                                      34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            34;
                                                                                                                                                                                                                                                                                                                                                                                                                      factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-Feb-2001
                                                                                                                                                                                                                                                                                                  Lys,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mori and
                      151
                                                                                                91
                                                                                                                                      60
                                                                                                                                                                             63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                      ď
                                                                                                                                                                                                                                                                                                  Asp,
                                                                                                                                                                                                                                                                                                                                                                                                                  homology
                                                                                                                                                                                                                    ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           biochemica
                                                                                                                                                                                                                                                                                                  Ser) #sta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            #sta
```

```
C;Accession: $30096; T49787
R;Heintz, K.; Palme, K.; Diefenthal, T.; Russo, V.E.A.
Mol. Gen. Genet. 235, 413-421, 1992
A;Title: The Ncypt1 gene from Neurospora crassa is loc
A;Reference number: $30096; MUID:93101148; PMID:136121
A;Accession: $30096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Map position: 5
A; Introns: 8/2; 48/3; 64/3; 96/3
C; Superfamily: ras transforming
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     submitted to the EMBL Data Library, October 1998
A;Description: The sequence of C. elegans cosmid
A;Reference number: 221407
A;Accession: T33781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Accession:
R;Maggi, L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hypothetical protein C39F7.4 - Caenorha
C;Species: Caenorhabditis elegans
C;Date: 29-Oct-1999 #sequence_revision
                                                                                          A;Cross-references: GB:S51252; NID:g262045; PIDN:AAB24564.1; R;Schulte, U.; Aign, V.; Hoheisel, J.; Brandt, P.; Fartmann, submitted to the Protein Sequence Database, May 2000
                                                                                                                                                                                                                                                                                                                             C;Species: Neurospora crassa
C;Date: 30-Sep-1993 #sequence_revision
                                                                                                                                                                                                                                                                                                                                                                     GTP-binding N; Alternate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                      A; Reference number: Z25022
A; Accession: T49787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Molecule type: DNA
A;Residues: 1-205 <MAG>
A;Residues: 1-205 <MAG>
A;Cross-references: EMBL:AF101310; PIDN:AAC69218.1; GSPDB:GN00023;
A;Experimental source: strain Bristol N2; clone C39F7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뫄
                  A; Molecule
                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-203 <HEI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Gene: CESP: C39F7.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Status: preliminary; translated
A; Residues:
                                    A;Status: preliminary
                                                                                                                                                                                          A;Status: not compared with conceptual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genetics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TAGGAEKSNVKIQ-STPVK-QSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KLQI---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAGGA -- PGVRITGSQPVQDKKSGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LYGNKCDLTTKKYVDYTTAKEFADSLGIPFLETSAKNATNYEQSFMTMAAEIKKRMGPGA 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KLQIWDTAGQERFRTITSSYYRGAHGIIVVYDITDQETFNNVKQWLQEIDRYACENVNKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAPAGHVKIDQGQPIDTGKSSCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NKCDLTTKKVVDFSTAKQYAEQLGIPFLETSAKNSTNVEQAFMTMAAEIKARVGPPST-G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LVGNKCDLTAKRAVETQAAQDYAGQLGIPFLETSAKSSTNVEQAFLTMASEIKSRMGPVQ 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MAAMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    al Similarity
137; Conser
                                                                                                                                                                                                                                                                                                                                                                   protein ypt1 [similarity] - Neurospora crassa
names: protein B9J10.240; ras-related protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein C39F7.4 - Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Scheet, P.; Dubbelde,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  74.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          96/3; 163/3
ning protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 660;
Pred. No. 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                       ras-related protein
                                                                                                                                                                                            translation
                                                                                                                                                                                                                                                                                                                                 30-Sep-1993 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29-oct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              translation elongation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----ESFNNVKQWLQEIDRYASENVNKL
                                                                                                                                                                                                                                   PMID:1361212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 2;
3.2e-46;
18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C39F7
                                                                                                                                                                                                                                                     located
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         #text_change 11-Jan-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 205;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                   ypt1
                                                                                                                                                                                                                                                     on
                                                                                                                PID:g262046
B.; Holland,
                                                                                                                                                                                                                                                       chromosome
                                                                                                                                                                                                                                                                                                                                 19-Jan-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CESP: C39F7.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                T'u
                                                                                                                                                                                                                                                       molecular
                                                                                                                  ₽.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4:
                                                                                                                  Nyakatu
```

```
A;Gene: yptCl
A;Gene: yptCl
A;Introns: 5/1; 10/2; 29/2; 45/2; 61/2; 85/2; 137/2; 172/1
A;Introns: 5/1; 10/2; 29/2; 45/2; 61/2; 85/2; 137/2; 172/1
C;Superfamily: ras transforming protein: translation elongation factor Tu homolog
C;Keywords: GTP binding; lipoprotein: membrane trafficking; nucleotide binding;
E;9-124/Domain: translation elongation factor Tu homology <ETU>
F;15-22/Region: nucleotide-binding motif A (P-loop)
F;37-45/Domain: effector #status predicted <EEFP>
F;121-124/Region: GTP-binding NAK/L motif
F;151-153/Region: GTP-binding SAK/L motif
F;151-153/Region: GTP-binding SAK/L motif
F;202,203/Binding site: geranyl-geranyl (Cys) (covalent) #status predicted
F;202,203/Binding site: geranyl-geranyl (Cys) (covalent)
                                                                                                                                                                                                                                                                                                                                                                                   JC4105
GTP-binding protein yptCl - Chlamydomonas reinhardtii
GTP-binding protein yptCl - Chlamydomonas reinhardtii
GTP-binding protein yptCl - Chlamydomonas reinhardtii
C:Species: Chlamydomonas reinhardtii
C:Date: 21-Nov-1995 #sequence_revision 08-Feb-1996 #text_change 02-Feb-2001
C:Accession: JC4105
R:Dietmaler, W: Fabry, S: Huber, H.; Schmitt, R.
Gene 158, 41-50, 1995
A:Title: Analysis of a family of ypt genes and their products from Chlamydomonas reinhar
A:Reference number: JC4105; MUID:95309723; PMID:7789809
A:Accession: JC4105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Cross-references: GB:Ul3168; NID:g806723; PIDN:AAA82727.1; PID:g806724 C;Comment: This protein plays an essential role in the regulation of intracellular C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ρ
                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: mRNA
A; Residues: 1-203 <DIE>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ρ
                  멍
                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Rest Local Similarity 66...
175; Conservative
                                                                                Best Local
Matches 1
                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  152 GAEKS-NVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 IWDTAGQERFRTITSSYYRGAHGICVVYDVTDMDSFNNVKQWLQEIDRYATEGVNKLLVG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | MNPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTIGUPFKIRFIELDGKTIKLQ 60 | MNPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTIGUPFKIRTVELDGKVIKLQ 60 | MNPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTIGUPFKIRTVELDGKVIKLQ 60 |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NTKASVNVSPGHGVSNNSSGGCC 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NKSDMTDKKVVEYTVAKEFADSLGIPFLETSAKNASNVEQAFLTMARQIKERMGSSIATN 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG 151
                                                                          Similarity 65.7
34; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       74.3%;
                                                                                         73.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 658.5;
Pred. No. 4.2e
11; Mismatches
                                                                            Score 646.5; DB 2;
Pred. No. 3.9e-45;
9; Mismatches 26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -ESFNNVKQWLQEIDRYASENVNKLLVG 91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .2e-46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2:
                                                                                                        Length 203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         33;
                                                                            35;
                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                  Tu homology binding; P-loop;
                                                                            3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cysteine
                                                                                                                                                       Ser)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ser) #st
                                                                                                                                                                                                                                                                                                                                memb
                                                                                                                                                        #sta
A; Gene: yptV1
A; Introns: 5/
                                                                                                                                                                                                                                                                                                  DЪ
                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DP
DA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Gene:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                            92
                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          64
 5/2;
```

```
A; Cross-references:
C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ypti-related protein 1 [imported] - fission yeast (Schizosaccharomyces pombe)
c;Species: Schizosaccharomyces pombe
C;Date: 09-Jun-2000 #sequence_revision 09-Jun-2000 #text_change 02-Sep-2000
C;Accession: T50323
R;McDougall, R.C.; Rajandream, M.A.; Barrell, B.G.; Cadieu, E.; Lelaure, V.; usubmitted to the EMBL Data Library, January 2000
A;Reference number: Z25061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Map position: 2
A;Introns: 4/2; 45/3; 61/3; 94/1
C;Superfamily: ras transforming protein; translation elongation E;9-124/Domain: translation elongation factor Tu homology <ETU>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Reference number: Z25061
A;Accession: T50323
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-203 <MCD>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Experimental source: strain C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Cross-references: EMBL:ALl36536; PIDN:CAB66454.1; A;Experimental source: strain 972h(-); cosmid c1703
                                                                                                                                                                                                                                                                                                                                                                                                     152 GAEKSNVKI-QSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 KAGGPVVRPQ-EGKPINSKSSSCC
                                                                                                                                                                                                                                                                                                                                                                   181 SNAKSSVKVGQGTNVSQSSSNCC
                                                                                                                                                                                                                                                                                                                                                                                                                                            121 NKSDMYDKKYVEYSVAKEFADSLNIPFLETSAKDSTNVEQAFLTMSRQIKERMGNNTFAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Sin
hes 131;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           64 I-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTFELEGKTVKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SPDB: SPBC1703.10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IWDTAGQERFRTITSSYYRGAHGIIIVYDVTDQDSFNNVKQWLQEIDRYAVEGVNRLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGGAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NKSDLTSKKVVEYSVAKAFADEIGIPFLETSAKNATNVEQAFMTMAAEIKNRMASQPIPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMG--PGAT 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLNEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       h 73.0%;
Similarity 64.5%;
31; Conservative 1
10/3; 29/3; 45/3; 61/3; 85/3; 137/3; 172/2
                                                  <FAB>
s: GB:M93438; NID:g170660; PIDN:AAA34255.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; Score 646.5; I
; Pred. No. 3.9e:
16; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .9e-45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GSPDB:GN00067; SPDB:SPBC1703.10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        factor
                                                                                                                                                    Volvox carteri:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        T'L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            V.; Galibert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2
                                                                                                                                                    G
```

```
A;Molecule type: DNA
A,Residues: 1-201 <CHE>
A;Rosidues: 1-201 <CHE>
A;Rossidues: 1-201 <CHE>
A;Cross-references: GB:U30474; NID:g940431; PIDN:AAB40355.1; PID:g940432
C;Comment: This protein is involved in vesicle transport between the endoplasmic reticul
C;Genetics:
A;Gene: ypt1
A;Introns: 5/2; 45/3; 61/3; 108/2
C;Superfamily: ras transforming protein; translation elongation factor Tu homology
C;Superfamily: ras transforming protein; translation elongation factor Tu homology
C;Keywords: GTP binding; membrane trafficking; nucleotide binding; P-loop
F;9124/Domain: translation elongation factor Tu homology <ETU>
F:15-22;Region: nucleotide-binding motif
F:151-124/Region: GTP-binding NKXD motif
F:151-153/Region: GTP-binding SAK/L motif
F:151-153/Region: GTP-binding site: Mg-GTP (Lys, Ser, Thr, Asn, Lys, Asp, Ser) #st:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 14
UC5337
GTP-binding protein ypt1 - Phytophthora infestans
N; Alternate names: monomeric GTP-binding protein
C: Species: Phytophthora infestans (potato late blight agent)
C; Date: 14-May-1997 #sequence_revision 18-Jul-1997 #text_char
C; Accession: JC5337
C: Accession: JC5337
                                                                                                밁
                                                                                                                                      Ş
                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R;Chen, Y.; Roxby, R. Gene 181, 89-94, 1996
Gene 181, 89-94, 1996
A;Title: Characterization of a Phytophthora infestans gene involved A;Reference number: JC5337; MUID:97128773; PMID:8973313
A;Accession: JC5337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Superfamily: ras transforming protein; translation elongation factor C;Keywords: GTP binding; lipoprotein; membrane trafficking; nucleotide E;9-124/Domain: translation elongation factor Tu homology <ETU>F;15-22/Region: nucleotide-binding motif A (P-loop) F;40-45/Region: GTP binding #status predicted F;61-68/Region: GTP binding #status predicted F;61-68/Region: GTP binding #status predicted
                                             Ş
                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F;120-126/Region: GTP binding #status predicted
F;147-153/Region: GTP binding #status predicted
F;202,203/Binding site: geranyl-geranyl (Cys) (covalent) #status predicted
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
  121 NKSDLTAKRVVSTDAAKEFAESLGIEFLETSAKNAANVEKAFMMMAAQIKKRM--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                61
                                                                                                                                           64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity 65.0 ses 134; Conservative
                                                                                                                                                                                           _
                                                                                                                                                                                                              4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               <del>بــ</del>ـا
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                          NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NKSDLTGKKVVDYQAAKAFADEIGIPFLETSAKNATNVEQAFMTMAAEIKNRMASQPVPP 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATAGGAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMG----PG
                                                                                                                                                                                      MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLAEIDRYASENVNKLLVG
                                                                                           IWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLHEIDRYACENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KPGGPVVRPT - - - EGKPINNKSSSCC
                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                     71.3%;
67.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           72.5%;
65.0%;
                                                                                                                                                                                                                                                                                  8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6.
                                                                                                                                                                                                                                                                                                        Score 631.5; DB 2;
Pred. No. 6.2e-44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 642.5; DB 2;
Pred. No. 8.2e-45;
6; Mismatches 27;
                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  203
                                                                                                                   -ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                  18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        #text_change 02-Feb-2001
                                                                                                                                                                                                                                                                                                                           Length 201;
                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                  41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in
                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tu homology binding; P-loop;
                                                                                                                                         91
                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    vesicle transpor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          63
                                                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      w
••
```

Job

time

Search completed: November 17,

2002,

13:07:56

```
Ş
                                                                   밁
                                                                                                   Qy
                                                                                                                                      밁
                                                                                                                                                                       Qy
                                                                                                                                                                                                             В
                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                  F;9-124/Domain: translation elongation factor Tu homology <ETU>F;15-22/Region: nucleotide-binding motif A (P-loop)
F;121-124/Region: GTP-binding NAK/D motif
F;151-153/Region: GTP-binding SAK/L motif
F;21,22,40,121,122,124,151/Binding site: Mg-GTP (Lys, Ser, Thr,
                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Cross-references: EMBL:X72212; NID:g311906; PIDN:CAA51011.1; PID:g311907 C;Superfamily: ras transforming protein; translation elongation factor Tu C;Keywords: GTP binding; nucleotide binding; P-loop
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;Napier, J.A.; Shewry, P.R. submitted to the EMBL Data I A;Reference number: S34253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C;Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 02-Feb-2001 C;Accession: S34253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: mRNA
A; Residues: 1-203 <NAP>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTP-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Accession: S34253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C; Species:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Status: preliminary
                                                                                                                                                                                                                                                                                                                      Query Match
 181
                                    152
                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  178 VAPKAGVKL - - TPGQQVPSNGGSKCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     152
                                                                                                        92
                                                                                                                                         61
                                                                                                                                                                          64
                                                                                                                                                                                                                                                                                                  Local
                                                                                                                                                                                                             1 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYLESYISTIGVDFKIRTVEQDGKTIKLQ
                                                                                                                                                                                                                                4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                  GAEKSNVKIQSTPVKQSGGGCC 173
SAKPPTVNIRGQPVTQS-GGCC
                                                                                          NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG
                                                                                                                                         IWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLSEIDRYASDGVNKILVG
                                                                       NKSDLTANRVVSYETAKAFADEIGIPFLETSAKDATNVEQAFMAMTSAIKNRMASQPANN 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAEKSNVKIQSTPVKQ--SGGG--CC
                                                                                                                                                                                                                                                                                   l Similarity
129; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nicotiana tabacum (common
                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                70.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Library, May 1993
                                                                                                                                                                                                                                                                                   10;
                                                                                                                                                                                                                                                                                 Score 627.5;
Pred. No. 1.3e
10; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         common tobacco
on tobacco)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     173
                                                                                                                                                             --ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                 1.3e-43;
hes 30;
                                                                                                                                                                                                                                                                                                                      DΒ
                                                                                                                                                                                                                                                                                                                  2;
                                                                                                                                                                                                                                                                                                                                                     Ser, Thr, Asn,
                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                      203;
                                                                                                                                                                                                                                                                                   33;
                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                     Lys,
                                                                                                                                         120
                                                                                                        151
                                                                                                                                                                                                               60
                                                                                                                                                                            91
                                                                                                                                                                                                                                                63
                                                                                                                                                                                                                                                                                                                                                     Asp,
                                                                                                                                                                                                                                                                                                                                                                                                                                                            homology
```

```
f homo sapien
rattus norv
discopyge o
rattus norv
lipmaea sta
neurospora
chlamydomon
chlam
  SPECIES-Mouse;
Wu G., Dorn G.W. II;
"Mouse RablA, member of
Submitted (JAN-2000) t
[6]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.

SPECIES-MOUSE;
MEDLINE-89386011; PubMed-2506528;
MEDLINE-89386011, PubMed-2506528;
Wichmann H., Disela C., Haubbruck H., Gallwitz D.;
"Nucleotide sequence of the mouse yptl gene encoding GTP-binding protein.";
Nucleic Acids Res. 17:6737-6738(1989).

[5]
                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
SPECIES-MOUSE;
MEDLINE-08166649; PubMed-3127202;
MEDLINE-08166649; PubMed-3127202;
MEDLINE-10, Disela C., Wagner P., Gallwitz D.;
"The ras related ypt protein is an ubiquitous eukaryotic protein: isolation and sequence analysis of mouse cDNA clones highly homologous to the yeast YPTI gene.";
EMBO J. 6:4049-4053(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.

SPECIES-Human;

SPECIES-Human;

MEDLINE-#3308668; PubMed-2501306;

MEDLINE-#3308668.

Tahraoui A., Touchot N., Chardin P., Tavitian A.;

"The human Rab genes encode a family of GTP-binding proteins to yeast YPT and SEC4 products involved in secretion.";

J. Biol. Chem. 264:12394-12401(1989).
PHOSPHORYLATION BY CDC2.
MEDLINE-91218852; PubMed-1902553;
Bailly E., McCaffrey M., Touchot N., Zahraoui A., (
"Phosphorylation of two small GTP-binding proteins
by p34cdc2.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
SPECIES=Human; TISSUE=Placenta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (Human), and Mus musculus (Mouse). Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates; NCBI_TaxID=9606, 10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RAB1 OR RAB1A.
                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      384.5
374.5
360.5
360.5
350.3
349.5
344.5
342.3
343.3
336.3
336.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (NOV-2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (Rel. 12, Created)
(Rel. 12, Last sequence update)
(Rel. 41, Last annotation update)
protein Rab-1A (YPT1-related prote
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      43.4
42.3
40.7
40.7
39.7
39.4
38.9
38.9
37.9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                              t of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                              RAS
the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RB13_HUMAN
RB10_RAT
SEC4_YEAST
SEC4_YEAST
SEC4_CANAL
RB26_MAIZE
RB28_MAIZE
YP74_CHLEE
RB38_BOVIN
YP74_VOLCA
RAB3_DROWER
RB38_LHUMAN
                                                                                                              oncogene family mRNA.";
EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 databases
                 Goud B., Bornens M.; s of the Rab family
                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P51153
P075281
P075286
Q15286
Q14462
P49103
P49104
Q39570
P11023
P36863
P36863
P25228
P20336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  O saccharomyc
f homo sapien
2 candida alb
3 zea mays (m
4 zea mays (m
0 chlamydomon
3 bos taurus
3 volvox cart
8 drosophila
6 homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          homo sapien
rattus norv
```

Result No.

% Query Match

Length

DΒ

Ħ

860 848 760.5 658.5 644.5 631.5 6619.5 6619.5 6613.5 613.5 538 468.5 448.5 449.4 4410.5 4405.5 4405.5 4405.5 4405.5

RBIA_HUMAN
RBIB_RAT
RABI_DISON
RBIB_RAT
RABI_LYMST
RABI_DICOL
RABI_DICOL
RABI_DICOL
RABI_DICOL
RABI_DICOL
RABI_DICOL
RABI_DICOL
RABI_BETUMAN
RABB_HUMAN
RA

P011711 P22125 P105736 Q05976 Q05977 Q05977 Q059771 P311620 P311880 Q01890 Q01890 Q01890 Q01890 P01123 P40392 P601123 P601123 P601123 P70790 P16976 P70790 P

Minimum Maximum

DB Bd

seq seq

length:

0 20000000000 Total number

112892 segs, 41476328 residues hits satisfying chosen parameters:

112892

Post-processing:

Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database

SwissProt_40:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Title: Perfect so Sequence:

score: e: table:

> US-09-820-003A-2 886 1 MSSMNPEYDYLFKL

MSSMNPEYDYLFKLLLIGDS.....

. EKSNVKIQSTPVKQSGGGCC

Scoring

BLOSUM62 Gapop 10.0 , Gapext 0 Run

9

protein

protein search, using

WS

model

GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen

Ltd

November 17, 2002, 11:42:42; Search time 25 Seconds (without alignments) 287.016 Million cell updates/sec

```
δÃ
                                                                                                                                                   밁
                               δÃ
                                                                      B
                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                                                                         STETTT TTT WERE GOOD OF THE PERCONDERS AND THE PERC
 밁
                                                                                                                                                                                                                            Query Match
Best Local S
Matches 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDILINE=91296801; PubMed=1648736;
Khosravi-Far R., Lutz R.J., Cox A.D., Conroy L., Bous Sinensky M., Balch W.E., Buss J.E., Der C.J.;
"Isoprenoid modification of rab proteins terminating motifs.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTP-binding; Lipoprotein; Prenylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL;
EMBL;
EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   use
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Proc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MIM; 179508; -. MGD; MGI:97842; Rab1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            or send
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nature
[7]
                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                      NP_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                       NP_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                         NP_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TIGRFAMS; TIGRO0231; small_GTP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PMMA-2DPAGE; P11476; -. Genew; HGNC:9758; RAB1A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             entities
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 modified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      between
                                                                                                                                                                                                                                                                                                                                                                MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro: IPR003579; GTPase_Rab.
InterPro: IPR001806; Ras_trnsfrmng.
InterPro: IPR005252; Small_GTP.
Pfam; PF00071; ras; 1.
 121
                                       89
                                                                          61
                                                                                                              61
                                                                                                                                                                                           Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BL; Y00094; CAA68284.1; -...
BL; X15744; CAA33760.1; -...
BL; X15745; CAA33760.1; JOINI
BL; X15746; CAA33760.1; JOINI
BL; X15747; CAA33760.1; JOINI
BL; AF226873; AA3373844.1; -...
R; S05551; TVMSYP.
R; S05551; TVMSYP.
R; S19104; S19104.
R; S19104; S19104.
                                                                                                                                                   -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         s SWISS-PROT entry is copyright. It is produced through a ween the Swiss Institute of Bioinformatics and the EMBI European Bioinformatics Institute. There are no restrictly non-profit institutions as long as its content is by non-this statement is not removed. Usage by and institutions as the statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     THROUGH GOLGI COMPARTMENT.
SUBCELLULAR LOCATION: GOLGI COMPARTMENT.
PTM: PHOSPHORYLATED BY CDC2-KINASE DURING MITOSI
SIMILARITY: TO RAS PROTEINS. BELONGS TO THE RAB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FUNCTION:
                                                                                                                                               LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA
                                                                                                                KLQI--
LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA
                                                                        KLQIWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLQEIDRYASENVNKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      179508;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                M28209; AAA60240.1; -
BC000905; AAH00905.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; PR00449; RASTRNSFRMNG.
SM00175; RAB; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            350:715-718(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          s requires a license agreement (S
an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                         reticulum;
18 25
66 70
124 127
40 48
194 194
204 204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Acad.
                                                                                                                                                                                                                                                                                                       18
124
40
194
204
205
                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROBABLY REQUIRED
                                                                                                                                                                                                                                                                                                         Æ
                                                                                                                                                                                                                                                                                                         22678
                                                                                                                                                                                                                                                97.18;
84.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOINED.
                                                                                                                                                                                                                                                                                                       MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Prenylation; Protein transport;
                                                                                                                                                                                                                                                                                                                                         GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
EFFECTOR REGION (BY S
PHOSPHORYLATION (BY C
GERANYL-GERANYL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .'
                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                Score 860;
Pred. No. 9.
                                                                                                                                                                                                                                                                                                                           GERANYL-GERANYL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88:6264-6268(1991).
ED FOR TRANSIT OF PROTEIN
                                                                                                                                                                                                                                                                                                     B2A8F4E3B0FB17D6 CRC64;
                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Der C.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                              DB 1;
1.3e-65;
                                                                                              ESFNNVKQWLQEIDRYASENVNKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MITOSIS
                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                Length 205;
                                                                                                                                                                                                                                                                                                                                                          SIMILARITY)
CDC2) (PROB
                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FROM
                                                                                                                                                                                                                                                                                                                                                            (PROBABLE).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ვ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 J.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Golgi stack;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           or
                                                                                                                                                                                                                            32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CXC
                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뒤
180
                                                                      120
                                                                                                            88
                                                                                                                                                 60
                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                            ۲.
```

```
RESULT 2
RD1A_RATI
ID A_RATI
ID A_RATI
ID A_RATI
AC P057
DT 01-b
DT 01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멂
                                                                                                                                                                                                                       EMBL; J02998; AAA42006.1; EMBL; X56384; CAB56775.1; A PIR; A36364; A36364. PIR; A39963; A39963. HSSP; P05713; 3RAB.
                                                                                     InterPro; IPR003579; G
InterPro; IPR001806; F
InterPro; IPR005225; S
Pfam; PF00071; ras; 1.
PRINTS; PR00449; RASTF
SMART; SM00175; RAB; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RB1A_RAT
P05711;
01-NOV-1988
                                            TIGRFAMs; TIGR00231; small_GTP; GTP-binding; Lipoprotein; Prenyl
                                                                                                                                                                                                                                                                                                                                                              entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produ between the Swiss Institute of Bioinformatics the European Bioinformatics Institute. The swiss by non-profit institutions as long as i modified and this statement is not removed. Us entities requires a license agreement (See http
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
SPECIES-C.familiaris;
MEDLINE-91061765; Publ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a rat brain
Proc. Natl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Touchot N., Chardin P., Tavitian A.;
"Four additional members of the ras gene superfamily isolated by oligonucleotide strategy: molecular cloning of YPT-related cDNAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Proc. Natl. Acad.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Isoprenoid modification motifs.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE-91296801; pubMed=1648736;
Khosravi-Far R., Lutz R.J., Cox A.D., Conroy L.,
Sinensky M., Balch W.E., Buss J.E., Der C.J.;
"Isopremoid modification of rab proteins terminat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                line.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chavrier P., Vingro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTPASE ACTIVITY.
-!- SIMILARITY: TO RAS PROTEINS. BELONGS TO THE RAB SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        THROUGH GOLGI COMPARTMENT.
-!- MISCELLANEOUS: RAB-1A BINDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -!- FUNCTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mol. Cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=88068563;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=10116, 9615;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Canis familiaris (Dog).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rattus norvegicus (Rat), and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RAB1 OR RAB1A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ras-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-1988
                         Endoplasmic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SPECIES-Rat;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ISOPRENOID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TAGGAEKSNVKIQSTPVKQSGGGCC
reticulum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         library.";
Acad. Sci. U.S.A. 84:8210-8214(1987)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Rel. 09, Created)
(Rel. 09, Last seq
(Rel. 40, Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein Rab-1A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1765; PubMed=2123294;
Vingron M., Sander C., Simons K.,
loning of YPT1/SEC4-related cDNAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROBABLY REQUIRED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                 RASTRNSFRMNG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10:6578-6585(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PubMed=3317403;
                                                                                                                                                             Small_GTP
                                                                                                                                                                                                       GTPase_Rab
                                                                                                                                                                                Ras_trnsfrmng.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRAIN-Cocker spaniel;
                                              Prenylation; Protein transport; Golgi stack;
                                                                                                                                                                                                                                                                                               ALT_SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   sequence update)
                                                                                                                                                                                                                                                                                                                                                                                     is not removed. Usage by and for agreement (See http://www.isb-sib.
    GTP (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88:6264-6268(1991).
ED FOR TRANSIT OF PF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTP AND GDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     proteins terminating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               It is produced through a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                      There are no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     K., Zerial
NAs from an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AND POSSESS INTRINSIC
                                                                                                                                                                                                                                                                                                                                                                                                                                 its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROTEIN FROM THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bourne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                      restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     M.;
epithelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       റ്റ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   J.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ů,
                                                                                                                                                                                                                                                                                                                                                                                                              for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rattus
                                                                                                                                                                                                                                                                                                                                                                                       ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                            in no way
c commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        띩
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 from
```

```
RASULT 3
RABL_DISOM
ID RABL_D
ID RABL_T
RN (I)
RP SEQUEN
RA WEDLIT
RP SEQUEN
RA MEDLIT
RP SEQUEN
RA Fim
RT neuron
RT J. Bio
CC -1- SI
CC -1- SI
CC This S
CC This This This
CC This This This
CC This This This This This
CC This This This

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SPTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 171;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-AUG-1991 (Rel. 19, Created)
01-AUG-1991 (Rel. 19, Last sequence update)
01-OCT-1994 (Rel. 30, Last annotation update)
Ras-related protein ORAB-1.
Discopyge ommata (Electric ray).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
Elasmobranchii; Squalea; Hypnosqualea; Pristiorajea; Batoidea;
Torpediniformes; Narcinoidei; Narcinidae; Discopyge.
NCBL_TaxID-7785;
pfam; PF00071; ras; 1.
PRINTS; PR00449; RASTRNSFRNNG.
SMARF; SM00175; Ras; 1.
TIGRPAMS; TIGR00231; small_gmp; 1.
TIGRPAMS; TIGR00231; small_gmp; 1.
GTP-binding; Lipoprotein; Prenylation; Protein transport.
NP_BIND 15
GTP (BY SIMILARITY).
                                                                                                                                          InterPro; IPR003579; GTPase_Rab.
InterPro; IPR001806; Ras_trnsfrmng.
InterPro; IPR005225; Small_GTP.
                                                                                                                                                                                                                   EMBL; M38393; AAA4923
PIR; D38625; D38625
HSSP; P05713; 3RAB
                                                                                                                                                                                                                                                                                           This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to licensee(sb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE=91115900; PubMed=1899244;
Ngsee J.K., Elferink L.A., Scheller R.H.;
"A family of ras-like GTP-binding protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
TISSUE-Electric lobe;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             J. Biol. Chem. 266:2675-2680(1991).
-1- FUNCTION: PROTEIN TRANSPORT. PROBABLY INVOLVED IN VESICULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RAB1_DISOM
P22125;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TIPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NP_BIND
NP_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TAGGAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA 148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KLQIWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLQEIDRYASENVNKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KLQI-----ESFNNVKQWLQEIDRYASENVNKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TAGGAEKSNVKIQSTPVKQSGGCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNEKNVEQSFMTMAAEIKKRMGPGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           66
124
40
204
205
205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                               AAA49234.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          70
127
48
204
205
22763 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   95.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 849; DE
Pred. No. 7.7e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTP (BY SIMILARITY).

GTP (BY SIMILARITY).

EFFECTOR REGION (BY SIMILARITY).

GERANYL-GERANYL.

GERANYL-GERANYL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              34649523B0FB0EFB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 1;
'.7e-64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  expressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 205;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     electromotor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1;
```

```
RATE PERSON MEDDIN RY MEDIN RY MEDDIN RY MEDDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ΔĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RB1B_RAT
P10536;
01-JUL-1989
01-JUL-1989
01-OCT-1994
                                                                                                                                                                                                                                                                                                                                                                            with rabla."
FEBS Lett. 2:
[3]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NP_BIND
NP_BIND
DOMAIN
LIPID
LIPID
SEQUENCE
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                       MEDLINE-91296801; PubMed-1648736; Khosravi-Far R., Lutz R.J., Cox A.D., Conroy L., Bourne Sinensky M., Balch W.E., Buss J.E., Der C.J.; "Isopremoid modification of rab proteins terminating in motifs.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.

MEDLINE-89160341; PubMed=2493636;
Zahraoui A., Touchot N., Chardin P., Tavitian A.;
Zahraoui A., Touchot N., Chardin P., Tavitian A.;
"Nucleotide sequence of a rat cDNA: rablB, encoding related protain.";
Nucleic Acids Res. 17:1770-1770(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                  CHARACTERIZATION.
MEDLINE-90033316; PubMed-2509243;
TOUCDOT N. Zahraoui A., Vielh E., Tavitian A.;
"Blochemical properties of the YPT-related rab1B protein. Comparison
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rattus norvegicus (Rat).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ras-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                       SOPRENOID.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ш
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GSEKSNVNIQSTPVKSSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQAFMTMAAEIKKRMGPGATSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          al Similarity
165; Conser
                                                                                                                                                                                                                                                                                                                                                                                              256:79-84(1989)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (Rel.
(Rel.
(Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                202 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           67
124
45
201
202
22333 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11, Created)
11, Last sequence up
30, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rab-1B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          93.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 828; DB Pred. No. 4.2e 3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ω,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTP (BY SIMILARITY).
GTP (BY GIMILARITY).
EFFECTOR REGION (BY SIMILARITY).
GERANYL-GERANYL (BY SIMILARITY).
GERANYL-GERANYL (BY SIMILARITY).
; 31078E502ECDD1B9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 1; Length
4.2e-62;
hes 2; Indel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₽
                                                                                                                                                        POSSESS INTRINSIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a rab1-YPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      202;
                                                                                                                                                                                                                                                               CC or
                                                                                                                                                                                                                                                                                                           J.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          32;
                                                                                                                                                                                                                                                               CXC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ۳.
```

```
RESULT RABILLY RABILLY RABILLY RABILLY RAC RESULT R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOOP THE TENT OF T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뭐
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-FEB-1994
01-FEB-1994
01-OCT-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   modified
entities
or send a
                                           MEDLINE-94039042; PubMed-8223561;
Agterberg M., van Die I., Yang H., Andriessen J.A.,
van Tetering A., van den Eijnden D.H., Ploegh H.L.;
van Tetering A., van den Eijnden D.H., Ploegh H.L.;
van Tetering A., van den Eijnden D.H., Ploegh H.L.;
van Tetering A., van den Eijnden D.H., Ploegh H.L.;
van Tetering A., van den Eijnden D.H., Ploegh H.L.;
van Tetering A., van den Eijnden D.H., Ploegh Grab
proteins from the albumen gland of the mollusc Lymnaea stagnal;
Eur. J. Biochem. 217:241-246(1993).
-1- FUNCTION: PROBABLY REQUIRED FOR TRANSIT OF PROTEIN FROM THE
THROUGH GOLGI COMPARTMENT (BY SIMILARITY).
-1- SUBCELLULAR LOCATION: GOLGI COMPARTMENT (BY SIMILARITY).
-1- SUBCELLULAR LOCATION: GOLGI COMPARTMENT (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NP_BIND
       This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RAB1_LYMST
Q05974;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MUTAGEN
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NP_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL;
PIR; S
                                                                                                                                                                                                                                                                                                                                                 Lymnaeidae; Lymnaea.
NCBI_TaxID=6523;
                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
Lymnaeidae; Lymnaea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LYMST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TIGREAMS; TIGRO0231; GTP-binding; Lipopro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR003579; GTPase_Rab.
InterPro; IPR001806; Ras_trnsfrmng.
InterPro; IPR005225; Small_GTP.
                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ras-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SMART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                    Lymnaea stagnalis (Great pond
Eukaryota; Metazoa; Mollusca;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        RAB1A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LIPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ۳
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               x13905; CAA32105.1;

$03189; $03189.

$06147; $06147.

; $05713; 3RAB.
       SWISS-PROT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              G-ERPNLKIDSTPVKSASGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGFGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NKSDLTTKKVVDNTTAKEFADSLGVPFLETSAKNATNVEQAFMTMAAEIKKRMGPGAASG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IWDTAGQERFRTVTSSYYRGAHGIIVVYDVTDQESYANVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PF00071; ras; 1
S; PR00449; RAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SM00175; RAB; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity 76.2
54; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      and this statement is not removed. Usage by and for commercial requires a license agreement (See http://www.isb-sib.ch/announce/an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1; Lipoprotein; 1
15 22
63 67
121 124
37 45
200 200
201 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                201 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Rel. 28, Created)
(Rel. 28, Last sequence update)
(Rel. 30, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                222
67
124
45
200
201
201
21
22163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RASTRNSFRMNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rab-1A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  85.8%;
76.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        small_GTP;
     ıs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               n; Prenylation; Protein transport.

GTP (BY SIMILARITY).

GTP (BY SIMILARITY).

GTP (BY SIMILARITY).

EFFECTOR REGION (BY SIMILARITY GERANYL-GERANYL.

GERANYL-GERANYL.

GERANYL-GERANYL.

GERANYL-GERANYL.

GERANYL-GERANYL.
  copyright.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -----ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 760.5;
Pred. No. 1.7e
7; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                  snail).
Gastropoda;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8D3EEDC2AEF4A2FE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .5;
.1.7e-56;
8;
  is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A
produced
                                                                                                                                                                                                                                                                                                                                                                                                    Pulmonata; Basommatophora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
  through a
                                                                                                                                                                       stagnalis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              33;
                                                                                                                              THE
  collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                           떀
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SQ TITE
  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
```

```
RESULT 6
YPT1_NEUCR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Interpro; IPR003579; (Interpro; IPR001806; IInterpro; IPR005225; Sepfam; PF00071; ras; 1 PRINTS; PR00449; RASTISMART; SM00175; RAB; 1
                                                                                                                                                                                                                                                       YPT1_NEUCR
P33723;
01-FEB-1994
01-FEB-1994
16-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NP_BIND
NP_BIND
NP_BIND
DOMAIN
LIPID
LIPID
                                                                 MEDLINE-93101148; PubMed-1361212; MEDLINE-93101148; PubMed-1361212; Heintz K., Palme K., Diefenthal T., Russo V "The Neypt1 gene from Neurospora crassa is molecular cloning and structural analysis."
                                                                                                                                                                                                                GTP-binding protein yptl. YPT-1 OR B9J10.240.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    between the Swiss Institute of Bioinformatics and the F
the Buropean Bioinformatics Institute. There are no rest
use by non-profit institutions as loss on the
modified and this statement is not removed. Usage by an
entities requires a license agreement (See http://www.isb-
or send an email to license@isb-sib.ch).
                                                                                                                                                                                Neurospora crassa.
Eukaryota; Fungi; Ascomycota;
Sordariales; Sordariaceae; Ne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PIR; S32206; S32206.
PIR; S38339; S38339.
HSSP; P05713; 3RAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL;
               SEQUENCE FROM N.A.
STRAIN=74-OR23-1A;
                                                         Mol. Gen. Genet.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTP-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TIGRFAMS; TIGR00231;
                                                                                                                                                                 NCBI_TaxID=5141;
                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                           149
                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Si
hes 152;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TAGGAEKSNVKI-QSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA
                                                                                                                                                                                                                                                                                                                                                                                                 TAASDSKPSVKINSSTPVSANKGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                         LVGNKSDLTTKKVVDFTTAKEYADQLGIPFLETSAKNATNVEQAFMTMAAEIKNRMGP-I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KLQIWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLQEIDRYASENVNKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           x72688;
 u.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               204
205
205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g; Lipoprotein; I
c reticulum.
25
66 70
124 127
40 48
204 205
205 AA; 22760 I
                                                                                                                                                                                                                                                          (Rel.
(Rel.
(Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CAA51233.1;
                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                           g and structural an 235:413-421(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RASTRNSFRMNG
                                                                                                                                                                                                                                                         28, Created)
28, Last sequence 40, Last annotations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     82.7%;
73.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         small_GTP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Small_GTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTPase_Rab.
Ras_trnsfrmng.
 Hoheisel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Prenylation; Protein transport;
                                                                                                                                                                                  Neurospora
                                                                                                                                                                                                                                                         sequence update)
annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
GEFFECTOR REGION (BY SIMILARITY).
GERANYL-GERANYL (BY SIMILARITY).
GERANYL-GERANYL (BY SIMILARITY).
GERANYL (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 733; DB 1;
Pred. No. 3.4e-54;
7; Mismatches 13;
J.,
                                                                                                                                                                                                Pezizomycotina;
                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Н
                                                                                                                                                                                                                                                                                                                                                                                               205
 Brandt
                                                                                                                                                                                                                                                                                                                      203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (See http://www.isb-sib.ch/announce/
₽.,
                                                                            is located
                                                                                                                                                                                                                                                                                                                      ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ESFNNVKQWLQEIDRYASENVNKL
                                                                                                        V.E.A.
                                                                                                                                                                                                Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                          on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              he EMBL outstation restrictions on it
                                                                                          chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Golgi stack;
 Holland
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     n no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                            <u>ب</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                            179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ω
```

Schulte

Aign

Fartmann

```
RESULT YPTICT ID TICE IN THE SULT IN THE S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query
Best 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity
Matches 135; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HSSP; P01112; lpLJ.
InterPro; IPR003579; GTPase_Rab.
InterPro; IPR001806; Ras_trnsfrmng.
InterPro; IPR001805; Small_GTP.
Pfam; PF00071; ras; 1.
PRINTS; PR00449; RASTRNSFRMNG.
SMART; SM00175; RAB; 1.
TIGRFAMS; TIGR00231; small_GTP; 1.
                                                                                                                                                                                                                                                                                                                                        01-NOV-1997
01-NOV-1997
01-NOV-1997
GTP-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YPT1_CHLRE
Q39571;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LIPID
LIPID
SEQUENCE
                                                                                                                                                                                                                                             Chlamydomonas reinhardtii.
Eukaryota; Viridiplantae;
                                                                                                                                                                                                                                                                                                                 YPTC1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CHLRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NP_BIND
NP_BIND
NP_BIND
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
   MEDLINE=95309723; PubMed=7789809; Dietmaier W., Fabry S., Huber H.,
                                                                               STRAIN-cw15
                                                                                                                                                                                                           Chlamydomonadaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; S51252; AAB24564.1; -. EMBL; AL356324; CAB92031.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nyakatura G., Mewes H.-W., Mannhaupt G.;
Submitted (MAY-2000) to the EMBL/GenBank/DDBJ databases.
-i-FUNCTION: PROFEIN TRANSPORT. PROBABLY INVOLVED IN VESICULAR
TRAFFIC (BY SIMILARITY).
-i-SIMILARITY: TO RAS PROTEINS. BELONGS TO THE RAB SUBFAMILY.
                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                         NCBI_TaxID=3055;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTP-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4 MNPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTIGYDFKIRTIELDGKTIKLQ 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NTKASVNVSPGHGVSNNSSGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAEKS-NVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NKSDMTDKKVVEYTVAKEFADSLGIPFLETSAKNASNVEQAFLTMARQIKERMGSSIATN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S30096; S30096.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IWDTAGQERFRTITSSYYRGAHGICVVYDVTDMDSFNNVKQWLQEIDRYATEGVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15 Prenylation; Pr
                                                                                                                                                                                                                                                                                                                                           (Rel. 35, Created)
(Rel. 35, Last sequence up
(Rel. 35, Last annotation
protein YPTC1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -----ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                               Chlamydomonas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              74.3%;
66.5%;
                                                                                                                                                                                                                                      Chlorophyta; Chlorophyceae; Volvocales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Frenylation; Protein transport.

GTP (BY SIMILARITY).

GTP (BY SIMILARITY).

GTP (BY SIMILARITY).

GTP (BY SIMILARITY).

EFFECTOR REGION (PROBABLE).

GERANYL-GERANYL.

GERANYL-GERANYL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 658.5; DB:
Pred. No. 5.3e-48;
1; Mismatches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20F5A1AB3400EF1D CRC64;
       Schmitt
                                                                                                                                                                                                                                                                                                                                                                          on update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA
       ₽.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2
   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YPT1_SCHPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 134
                                                                                                                                                                                            YPT1_SCHPO STANDARD; PRT; 203 AA.

P11620;

P11620;

P11620;

P1-COT-1989 (Rel. 12, Created)

P1-AUG-1990 (Rel. 15, Last sequence update)

P1-JUN-2002 (Rel. 41, Last annotation update)

P1-JUN-2002 (Rel. 12, Created)

P1-JUN-2002 (Rel. 12, Created)

P1-JUN-2003 (Rel. 12, Created)

P1-JUN-2004 (Rel. 12, Created)

P1-JUN-2004 (Rel. 12, Created)

P1-JUN-2004 (Rel. 12, Created)

P1-JUN-2004 (Rel. 12, Created)

P1-JUN-2009 (Rel. 12, Created)

P1-JUN-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTP-binding; Lipoprotein; Product tygene family.

NP_BIND 63 67

NP_BIND 121 124

DOMAIN 37 45

LIPID 203 203

LIPID 203 203

LIPID 203 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
SEQUENCE FROM N.A.
MEDLINE=90228338; PubMed=2328721;
Miyake S., Yamamoto M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Analysis of a family of ypt Chlamydomonas reinhardtii."; Gene 158:41-50(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; U13168; AAA82727.1; -. HSSP; P05713; 3RAB.
                                                                                                                                   NCBI_TaxID=4896
                                                                                                                                                                             Schizosaccharomyces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SMART; SM00175; RAB; TIGREAMS; TIGRO0231;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR003579; GTPase_Ra
InterPro; IPR001806; Ras_trns:
InterPro; IPR005225; Small_Gri
Pfam; PF00071; ras; 1.
PRINTS; PR00449; RASTRNSFRMNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TRAFFIC (BY SIMILARITY).
-!- SIMILARITY: TO RAS PROTEINS. BELONGS TO THE RAB SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ب
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FUNCTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KAGGPVVRPQ-EGKPINSKSSSCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGGAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLNEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTVELDGKVIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            203 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PROTEIN TRANSPORT. PROBABLY INVOLVED IN VESICULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22 GT
67 GT
124 GT
45 EH
202 GH
203 GH
22599 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              73.0%;
65.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Small_GTP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTPase_Rab
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      small_GTP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ras_trnsfrmng.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Prenylation; Protein transport;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No. 5.3
9; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
EFFECTOR REGION (PROBABLE).
GERANYL-GERRANYL (BY SIMILARITY).
GERANYL-GERRANYL (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 646.5; DB 1;
Pred. No. 5.3e-47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            genes and their products from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DD22420FF2F35E1D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            35;
```

Gaps

Ψ

120 91 60 63

밁 Q 멍 Ş 밁 Ş 밁 δõ

```
A Squares S., Pearson D., Quail M.A., Walther S., Basham D., Brown S., Chillingworth T., Churcher C.M., A Gontos K., Brown D., Brown S., Chillingworth T., Churcher C.M., Collins M., Connor R., Conin A., Davis P., Feltwell T., Fraser A., A Gontles S., Goble A., Hamlin N., Harris D., Hidalgo J., Hodgson G., A Holroyd S., Hornsby T., Howarth S., Huckle E.J., Hunt S., Jagels K., James K., Jones L., Jones M., Leather S., McDonald S., McLean J., A Money P., Moule S., Mungall K., Murphy L., Niblett D., Odell C., A Mount P., Moule S., Mungall K., Murphy L., Niblett D., Odell C., A Mount R., O'Neil S., Pearson D., Quail M.A., Rabbinowitsch E., A Wolfer K., O'Neil S., Pearson D., Quail M.A., Rabbinowitsch E., A Wolfer R., O'Neil S., Pearson D., Quail M.A., Rabbinowitsch E., A Wolfer R., O'Neil S., Pearson D., Quail M.A., Rabbinowitsch E., A Wolfer R., O'Neil S., Pearson D., Quail M.A., Rabbinowitsch E., A Wolfer R., Taylor R., Tivey A., Walsh S.V., Warren T., Whitehead S., Woodward J., Volckeart G., Aert R., Robben J., Grymonprez B., Woodward J., Vonstreels E., Rieger M., Schaefer M., Mueller-Auer S., A Weltjens I., Vanstreels E., Rieger M., Schaefer M., Mueller-Auer S., A Weltjens I., Vanstreels E., Holzer E., Moestl D., Hilbert H., A Berzym K., Eacher M., Weldler H., Waller S., Golibert F., Aves S., J., Xiang Z., Hunt C., Moore K., Hurst S.M., A Golfeau A., Cadieu E., Dreano S., Gloux S., Lelaure V., Mottier S., Gominguez A., Revuelta J.L., McCombie W.R., Paulsen I., Porashkin J., Thode G., Danga R.R., Cruzado L., Jimenez J., Sanchez M., del Rey F., Benito J., Waller M., McCombie W.R., Paulsen I., Porashkin J., J., Anderson S., Armstrong J., Forsburg S.L., Rander M., Reinhardt R., Paulsen I., Porashkin J., J., McCombie W.R., Paulsen I., Parashkin J., McCombie W.R., Paulsen I., Paulsen L., Paulsen L., Paulsen L., Paulsen L., Paulsen L., Paulse
SMART; SMC
TIGRFAMS;
                                                                                                                                                                                                                                                                                                                                                      EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cerrutti L., Lowe T., McCombie W.R., Paulsen I., Pota Shpakovski G.V., Ussery D., Barrell B.G., Nurse P.; "The genome sequence of Schizosaccharomyces pombe."; Nature 415:871-880(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nucleic [3]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute. The use by non-profit institutions as long a modified and this statement is not removed. entities requires a license agreement (See )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               proteins.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=92283842; PubMed=1597466;
Newman C.M., Giannakouros T., Han
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Wood V., Gwilliam Sgouros J., Peat N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Schizosaccharomyces pombe.";
Nucleic Acids Res. 17:4373-4373(1989)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Nucleotide sequence of a gene encoding schizosaccharomyces combe.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Schizosaccharomyces pombe.";
EMBO J. 9:1417-1422(1990).
                                                                                                                                                                                                                                                                                                                            EMBL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Post-translational processing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Magee A.I.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ISOPRENOID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=21848401;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-89296485;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Identification of ras-related, YPT family genes
                                                                                                                                                                                                                        BL; X52099; CAA36319.1; -.
BL; X15082; CAA33192.1; -.
BL; AL136536; CAB66454.1; -.
R; S04590; S04590.
R; S10025; S10025.
SP; P05713; 3RAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       send
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TRAFFIC (BY SIMILARITY).
SIMILARITY: TO RAS PROTEINS. BELONGS TO THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FUNCTION: PROTEIN TRANSPORT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                PF00071;
                                    SM00175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                   s requires a license agreement (See an email to license@isb-sib.ch).
                                                           PR00449;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Chem.
                                                                                                                                                         IPR003579;
IPR001806;
   TIGR00231;
                                                                                                                              IPR005225;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hook S.,
                                                                                         ras;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                267:11329-11336(1992).
PROTEIN TRANSPORT. PROBABLY INVOLVED
                                                           RASTRNSFRMNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PubMed=2740223;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R., Rajandream M.A., Lyne M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PubMed=11859360;
                                                                                                                                                         Ras_trnsfrmng
small_GTP;
                                                                                                                       Small_GTP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hancock J.F.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of Schizosaccharomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 There are no restrictions ng as its content is in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YPT1-related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Fawell E.H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lyne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RAB SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Potashkin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IN VESICULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   bу
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₽.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pombe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Armstrong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Stewart
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ٦.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     č
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       no
```

```
RESULT 9
YPT1_VOLCA
                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTTTTK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NP_BIND
NP_BIND
NP_BIND
DOMAIN
LIPID
LIPID
CONFLICT
SEQUENCE
                                                                                                               between the Swiss Institute of Bioinforms the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                              MEDLINE=92380499; PubMed=1511889;
Fabry S., Nass N., Huber H., Palme K., Jae
"The yptV1 gene encodes a small G-protein
carteri: gene structure and properties of
Gene 118:153-162(1992).
                                                                                                                                                                                                                                                                                                                                                                          YPT1_VOLCA
P31584;
                                              EMBL; M93438; AAA34255.1;
PIR; JC1247; JC1247.
HSSP; P05713; 3RAB.
InterPro; IPR003579; GTPa
                                                                                                                                                          This
                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
STRAIN-f. Nagariensis
                                                                                                                                                                                                                                                                                     NCBI_TaxID=3067;
                                                                                                                                                                                                                                                                                                       Volvox carteri.
Eukaryota; Viridiplantae;
                                                                                                                                                                                                                                                                                                                                     GTP-binding
                                                                                                                                                                                                                                                                                                                                               01-JUL-1993
16-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTP-binding;
                                                                                               or send
                                                                                                         entities
                                                                                                                                                                                                                                                                                                Volvocaceae;
                                                                                                                                                                                                                                                                                                                             YPTV1.
                                                                                                                                                                                                                                                                                                                                                                  01-JUL-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                       152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
les 131; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4
                                                                                                                                                                            TRAFFIC (BY SIMILARITY).
SIMILARITY: TO RAS PROTEINS. BELONGS TO
                                                                                                                                               SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                               GAEKSNVKI-QSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                     SNAKSSVKVGQGTNVSQSSSNCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    I-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IWDTAGQERFRTITSSYYRGAHGIIIVYDVTDQDSFNNVKQWLQEIDRYAVEGVNRLLVG
                                                                                               an
                                                                                                         requires a
                                                                                               email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; Lipoprotein;
15 22
63 67
121 124
37 45
202 202
203 203
                                                                                                                                                                                                                                                                                                                                               (Rel.
(Rel.
(Rel.
                                                                                                                                                                                                                                                                                                                                     protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                VOLVOX.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AA;
                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                             26,
26,
                                                                                                                                                                                                                                                                                                                                    yptV1
                                                                                                        license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    73.0%;
                                               GTPase_Rab.
                                                                                                                                                                                                                                                                                                                                              Last
                                                                                                                                                                                                                                                                                                                                                                  Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     n; Prenylation; Protein transport.

GTP (BY SIMILARITY).

GTP (BY SIMILARITY).

GTP (BY SIMILARITY).

EFFECTOR REGION (PROBABLE).

GERANYL-GERANYL.

GERANYL-GERANYL.

MMPE -> MNANTYN
                                                                                                                                                                                                                                                          HK10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MW;
                                                                             .'
                                                                                                                                                                                                                                                                                                        Chlorophyta; Chlorophyceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16;
                                                                                                                                                                                                                                                                                                                                               sequence u
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 646.5;
Pred. No. 5.3e
16; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                       173
                                                                                                                                                                                                                                                                                                                                                                                                                                     203
                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  59B3524F42BB3094
                                                                                                                                                                                                PROBABLY INVOLVED
                                                                                                                   removed
                                                                                                                                                                                                                                                                                                                                             on update)
                                                                                                                                                                                                                                                                                                                                                                                      203
                                                                                                                                                                                                                 , Jaenicke L.,
tein in the gre
s of the gene p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                     There are no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .3e-47
                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                            as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DВ
                                                                                                                                                                            THE
                                                                                                                   Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CRC64;
                                                                                                                                                                            RAB
                                                                                                                                                                                                                              green
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                IN
                                                                                                                                                                                                                   product.";
                                                                                                                   bу
                                                                                                                                                                            SUBFAMILY.
                                                                                                                                                                                                                                      Schmitt R.;
                                                                                                                                      restrictions
                                                                                                                                                                                                                                                                                                         Volvocales;
                                                                                                                                                                                                 VESICULAR
                                                                                                                                                                                                                             alga
                                                                                                                    and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ω
3;
                                                                                                                    for
                                                                                                                                                                                                                              Volvox
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                    commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2
```

Pfam; Pf00071; ras; 1.
PRINTS; PR00449; RASTRNSFRMNG

InterPro; IPR001806; InterPro; IPR005225;

Small_GTP. Ras_trnsfrmng.

```
YPTL PHYIN
ID YPTL PHYIN
ID YPTL PHON
AC Q01890
DT 01-NOV
DT 01-NOV
DT 01-NOV
DT 01-NOV
DT RAS-11-T
GN YPT1-
OS Phytop
OC Eukary
OC Phytop
OC EUKARY
RP STRAIN
RP STRAIN
RR (1]
RN (1]
RN (1]
RN (1]
RN (1)
RN CHON Y
RT "Char Y
RN T "Char Y
RN "Char Y
RN "Char Y
RN CHON Y
RN CHON Y
RN CHON
RC -!- FU
CC -!- FU
CC -!- FU
CC -!- SI
CC -!- SI
CC ----
CC -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTTTTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Si
Matches 134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TIGREAMS; TIGRO0231; small_GTP; 1.
GTP-binding; Lipoprotein; Prenylatio
Multigene family. GTP (BY
NP_BIND 15 22 GTP (BY
NP_BIND 63 67 GTP (BY
NP_BIND 121 124 GTP (BY
DOMAIN 37 45 EFFECTO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1997
01-NOV-1997
01-NOV-1997
                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on it
                                                                                                       EMBL; U30474; AAB40355.1; -.
HSSP; P05713; 3RAB.
Interpro; IPR003579; GTPase_Rab.
                                                                                                                                                                                                                        use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN-ATCC 52009;
MEDLINE-97128773;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; stramenopiles; Phytophthora.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Phytophthora infestans (Potato late blight fungus).
Eukaryota; stramenopiles; Oomycetes; Pythiales; Pythiaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TIPID
                                        InterPro; IPR001806; Ras_trnsfrmng.
InterPro; IPR005225; Small_GTP.
Pfam; PF00071; ras; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              vesicle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Characterization of a Phytophthora infestans gene involved 
vesicle transport.":
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ras-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=4787;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LIPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4 MNPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                               FUNCTION: PROTEIN TRANSPORT. PROBABLY INVOLVED IN VESICULAR TRAFFIC FROM ER TO GOLGI (BY SIMILARITY).
SIMILARITY: TO RAS PROTEINS. BELONGS TO THE RAB SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KPGGPVVRPT - - - EGKPINNKSSSCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMG----PG
                                                                                                                                                                                                                                                                                                                                                                                                                                                   le transport.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PHYIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATAGGAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NKSDLTGKKVVDYQAAKAFADEIGIPFLETSAKNATNVEQAFMTMAAEIKNRMASQPVPP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTVELDGKVIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLAEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        s; PR00449;
: SM00175; R
                                                                                                                                                                                                    an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               997 (Rel. 35, Created)
997 (Rel. 35, Last sequence update)
997 (Rel. 35, Last annotation update)
977 (Rel. 35, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Roxby
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    family.
15
63
121
37
202
203
AA
                                                                                                                                                                                       equires a license agreement (S email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ą,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22
67
124
45
202
203
203
22332
                    RASTRNSFRMNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PubMed=8973313;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   72.5%;
65.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Prenylation; Protein transport;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
GFPECTOR REGION (PROBABLE).
GERANYL-GERANYL (BY SIMILARITY).
GERANYL-GERANYL (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 642.5; DB 1;
Pred. No. 1.1e-46;
"" amatches 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CD143BADB92B4C65 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  201
                                                                                                                                                                                                                     moved. Usage by and for commercial
   (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                  There are no rest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ą
                                                                                                                                                                                                                                                                          and the EMBL ource
re no restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                              by and for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            203;
                                                                                                                                                                                                                                                                                                                  a collaboration - MBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              39;
                                                                                                                                                                                                                                            in no way
commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ω
```

```
A REAL CONTROL OF THE REAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ъ
                                                                                                                                                                                                                                                              RC STRAINCY. Columbia;
RX MEDLINE-21016719; PubMed=11130712;
RA MPDLINE-21016719; PubMed=11130712;
RA Theologis A. Ecker J.R., Palm C.J., Federspiel N.A., Kaul S.,
Pheologis A., Ecker J.R., Palm C.J., Brownan C.L., Brooks S.Y.,
RA White O., Alonso J., Altafi H., Araujo R., Bowman C.L., Brooks S.Y.,
RA White O., Alonso J., Altafi H., Araujo R., Bowman C.L., Brooks S.Y.,
RA White O., Alonso J., Chan A., Chao Q., Chen H., Cheuk R.F., Chin C.W.,
RA Chung M.K., Conn L., Conway A.B., Corway A.R., Creasy T.H., Dowar K.,
RA Chung M.K., Conn L., Conway A.B., Corway A.R., Creasy T.H., Dowar K.,
RA Gill J.E., Goldsmith A.D., Haas B., Hansen N.F., Hughes B., Hulzar L.,
RA Gill J.E., Goldsmith A.D., Haas B., Hansen N.F., Hughes B., Lin S., Khaykin E.,
RA Hunter J.L., Jenkins J., Johnson-Hopson C., Khan S., Khaykin E.,
RA Hunter J.L., Kremenetskaia I., Kurtz D.B., Kwan A., Lam B.,
RA Kim C.J., Koo H.L., Kremenetskaia I., Kurtz D.B., Kwan A., Lam B.,
RA Langin-Hooper S., Lee A., Lee J.M., Lenz C.A., Li J.H., Li Y.-P.,
RA Lin X., Liu S.X., Liu Z.A., Luros J.S., Malti R., Marziali A.,
RA Militscher J., Miranda M., Nguyen M., Nierman W.C., Osborne B.I.,
RA Ailt S., Peterson J., Pham P.K., Rizzo M., Rooney T., Rowley D.,
RA Sakano H., Salzberg S.L., Schwartz J.R., Shinn P., Southwick A.M.,
RA Mull, Y. Tambunga G., Toriumi M.J., Town C.D.,
RA Mull, Yu G., Fraser C.M., Venter J.C., Davis R.W.,
**Sequence and analysis of chromosome 1 of the plant Arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOSO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TIGREPAMS; TIGRO0231; sign of the control of the co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ARA5_ARATH P28188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LIPID
SEQUENCE
                                   SEQUENCE OF 64-258 FROM N.A. STRAIN-Various strains; TISSUE-Leaf; MEDLINE-92084144; PubMed-1748311;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-DEC-1992 (Rel. 24, Created)
15-JUL-1999 (Rel. 38, Last seq
15-JUN-2002 (Rel. 41, Last ann
Ras-related protein ARA-5,
ARA-5 OR AT1G02130 OR T7123.6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               178 VAPKAGVKL--TPGQQVPSNGGSKCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 NKSDLTAKRVVSTDAAKEFAESLGIEFLETSAKNAANVEKAFMMMAAQIKKRM---ANAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  92 NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GAEKSNVKIQSTPVKQ--SGGG--CC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLHEIDRYACENVNKLLVG
                                                                                                                                                                                               408:816-820(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 Lipoprotein; P
15 22
63 67
121 124
37 45
200 200
201 AA; 22292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (Rel. 24, Created)
(Rel. 38, Last sequence update)
(Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Brassicales;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              71.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       small_GTP;
Watanabe Y., Uchimiya H., Ishizaki R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          n; Prenylation: Protein transport.

GTP (BY SIMILARITY).

GTP (BY SIMILARITY).

GTP (BY SIMILARITY).

EFFECTOR REGION (PROBABLE).

GERANYL-GERANYL (BY SIMILARITY).

GERANYL-GERANYL (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 631.5;
Pred. No. 9.2e
8; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               89EE553A693C8AC5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2e-46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DΒ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ۳.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ū
```

```
δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SQUE TITITIES WARRED TO RESTRICT TO THE TITITIES OF THE TITITI
                                                                                                                                                                                                                                                                                                                                         RESULT 12
YPT2_MAIZE
                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                              01-FEB-1994
01-FEB-1994
15-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NP_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL;
TISSUE=Coleoptile; MEDLINE=92115746;
                                                                                                     Eukaryota; Viridiplantae; Str. Spermatophyta; Magnoliophyta; Panicoideae; Andropogoneae; Z.
                                                                                                                                                                                                                                                                                                YPT2_MAIZE
Q05737;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
LIPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PRO0449; RASTRNSFRMNG SMART; SM00175; RAB; 1. TIGRFAMS; TIGR00231; small_GTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Isolation and analysis of cDNAs encoding small GTP-binding prof Arabidopsis thaliana.";
Gene 108:259-264(1991).
-!- SIMILARITY: TO RAS PROTEINS. BELONGS TO THE RAB SUBFAMILY.
                                         SEQUENCE FROM N.A.
                                                                                                                                                                  Zea mays (Maize).
                                                                                                                                                                                             YPTM2
                                                                                                                                                                                                          GTP-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTP-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HSSP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   entities
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       modified and this statement is not removed.
                                                                                 NCBI_TaxID-4577;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NP_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matsui M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LIPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                               235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tities requires a license agreement (See http://www.isb-sib.ch/announce/send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     European Bioinformatics Institute. The by non-profit institutions as long
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; U89959; AAC24370.1; -.; D01027; BAA00832.1; -. PS0279; PS0279.
                                                                                                                                                                                                                                                                                                                                                                                                                             NNARPPTVQIRGQPVAQK-NGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QIWDTAGQERFRTITSSYYRGAHGIIIVYDVTDEESFNNVKQWLSEIDRYASDNVNKLLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QI-----ESFNNVKQWLQEIDRYASENVNKLLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TMNPEYDYLFKLLLIGDSGVGKSCLLLRFSDDSYVESYISTIGVDFKIRTVEQDGKTIKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pro; IPR003579; GTPase_Rab.
Pro; IPR001806; Ras_trnsfrm
Pro; IPR005225; Small_GTP.
PF00071; ras; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      258
                                                                                                                                                                                                          (Rel. 28, Created)
(Rel. 28, Last sequence update)
(Rel. 38, Last annotation updat
protein YPTM2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; Lipoprotein;
70 77
118 122
176 179
92 100
255 255
256 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            70
118
176
176
255
255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AA;
                                                                                                                                                                                                                                                                                                                      STANDARD;
  PubMed=1731354;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         69.9%;
61.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ras_trnsfrmng.
Small_GTP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           small_GTP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                n; Prenylation; Multigene family.

GTP (BY SIMILARITY).

GTP (BY SIMILARITY).

GTP (BY SIMILARITY).

GTP (BY SIMILARITY).

GEFECTOR REGION (BY SIMILARITY).

GERANYL-GERANYL (BY SIMILARITY).

GERANYL-GERANYL (BY SIMILARITY).

GERANYL-GERANYL (BY SIMILARITY).
                                                                                                                                          Streptophyta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15;
                                                                                                         Zea.
                                                                                                                                                                                                                                                                                                                                                                                                                               256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 619.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred.
                                                                                                                           Liliopsida;
                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                encoding small GTP-binding proteins
                                                                                                                                                                                                                                                                                                                   203
                                                                                                                                                                                                                                update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         There are no restrictions ng as its content is in
                                                                                                                      Embryophyta; Tracheophyta;
a; Poales; Poaceae; PACC clade;
                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ьy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            258;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   33.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             og
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2;
```

```
RICL_ORYSA
ID RICL_O
AC P40392
AC P40392
DT 01-FEB
DT 15-UUL
DE RAS-re
GN RICL.
OS ORYZA
OC EURARYY
OC Sperma
                                                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        맑
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ΩĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SO THE TEXT OF THE REAL PROPERTY OF THE TEXT OF THE TE
                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                               RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR003579; (InterPro; IPR001806; IInterPro; IPR005225; Sepfam; PF00071; ras; 1.PRINTS; PR00449; RASTI
                                                                                                                        01-FEB-1995
01-FEB-1995
15-JUL-1999
Ras-related |
Oryza sativa (Rice).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NP_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS;
SMART; S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Palme K., Diefenthal T., Vingron M., Sander C., Schell J.;
"Molecular cloning and structural analysis of genes from Zea may
(L.) coding for members of the ras-related ypt gene family.";
Proc. Natl. Acad. Sci. U.S.A. 89:787-791(1992).
-!- FUNCTION: PROTEIN TRANSPORT. PROBABLY INVOLVED IN VESICULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
LIPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TRAFFIC (BY SIMILARITY).
-i- TISSUE SPECIFICITY: ITS EXPRESSION IS WEAK IN STEMS, HIGHER ROOTS, LEAVES AND COLEOPTILES, BUT HIGHEST IN FLOWERS.
-i- PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT &
                                                                                                                                                                                                                          P40392;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NP_BIND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTP-binding;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TIGRFAMS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PIR; B38202; B38202.
HSSP; P05713; 3RAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; X63278; CAA44919.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BIOLOGICAL FUNCTION.
-!- SIMILARITY: TO RAS PROTEINS. BELONGS TO THE RAB SUBFAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GIAIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MaizeDB; 78605;
                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                       152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ۳
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                        GAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDSYLDSYISTIGVDFKIRTVEQDGKTIKLQ
                                                                                                                                                                                                                                                 ORYSA
                                                                                                                                                                                                                                                                                                                                                                            NARPATVQIRGQPVNQK-TSCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NKSDLTANKYVATETAKAFADEMGIPFMETSAKNATNYQQAFMAMAASIKDRMASQPAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IWDTAGQERFRTITSSYYRGAHGIIIVYDVTDQESFNNVKQWLNEIDRYASDNVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SM00175; RAB;
Ms; TIGR00231;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      j; Lipoprotein; i
15 22
63 67
121 124
37 45
200 200
201 201
203 AA; 22475 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            203
                                                                                                                                               (Rel. 31, Created)
(Rel. 31, Last sequence update)
(Rel. 38, Last annotation update)
                                                                                                                      protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RASTRNSFRMNG
                                                                                                                           RIC1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               69.8%;
63.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            small_GTP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Small_GTP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ras_trnsfrmng.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTPase_Rab
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            11 GTP; 1.

"", Prenylation; Palmitate; P:

"", GTP (BY SIMILARITY).

"", GTP (BY SIMILARITY).

"", GTP (BY SIMILARITY).

"", GTP (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ₩;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
EFFECTOR REGION (PROBABLE).
PALMITATE (BY SIMILARITY).
PROBANYL-GERANYL (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11;
                                                                                                                                                                                                                                                                                                                                                                                                                             173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 618.5;
Pred. No. 1.1e
11; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GERANYL-GERANYL (BY SIMIL; E241326E7ACD1B8A CRC64;
                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                   202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .le-44;
                                                                                                                                                                                                                                                   A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Protein transport.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ω
3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             91
```

```
EMBL; S66160; AAbz..

EMBL; S66160; AAbz..

HSSP; 901112; IPLK.

HSSP; P01112; IPLK.

InterPro; IPR001879; GTPase_Rab.

InterPro; IPR001879; G
       RESULT
YPT1_YI
ID YI
AC P(
DT 2:
DT 0:
DT 1:
DT 1:
GN YI
OS S:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STITITION DE RESERVATOR DE LA RESERVATOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                δð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                    밁
YPT1_YEAST
P01123;
21_JUL_1986 (R
01-NOV-1995 (R
15-JUN-2002 (R
GTP-binding pr
YPT1 OR YP2 OR
Saccharomyces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      [1]
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN-CV. Yamahoushi; TISSUE-Callus;
MEDLINE-94009718; PubMed-8405471;
MEDLINE-94009718; Anai T., Umeda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (EAST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ehrhartoideae; (
                                                                                                                                                                                                                                                                                                                                                                                                            181 ASKPATVQMPRQPVAQQ-SSCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NKCDLAENRVVSYEAGKALADEIGIPFLETSAKDATNVEKAFMTMAGEIKNRMASQGRTN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLNEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAEKSNVKIQSTPVKQSGGGCC 173
66 (Rel. 01, Created)
95 (Rel. 32, Last sequence updat
97 (Rel. 41, Last annotation upo
97 uportein YPT1 (Protein YP2).
97 OR YFL038C.
97 (Ces cerevisiae (Baker's yeast).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Oryzeae;
                                                                                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Anai T., Ümeda M., Aotsuka S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Oryza
       (Baker's yeast)
                                                                                                                                                                                                                                                                                                                                                                                                                201
                                                                                                                                                                                                                                              PRT;
                                                                                                                                  update)
                                                                                                                                                                                                                                          206
                                                                                                       update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                          Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein genes
in Escherichia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tsuge T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2;
```

```
EMBL; X00209; CAA25036.1; -
EMBL; D50617; BAA09201.1; -
PIR; A01374; TVXVQ2.
HSSP; P05713; 3RAB.
SGD; S0001856; PCF1.
InterPro; IPR003579; GTPase
InterPro; IPR001806; Ras_tr
InterPro; IPR005225; Small_
                                                                                 InterPro; IPR00 Pfam; PF00071; PRINTS; PR00449 SMART; SM00175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Becker J. Tan T.J. Trepte H.-H., Gallwitz D.;

"Mutational analysis of the putative effector domain of the
GTP-Dinding Yptl protein in yeast suggests specific regulation by
novel Apa activity.";

EMBO J. 10:785-792(1991).

10: FUNCTION: YPTI IS ESSENTIAL FOR CELL VIABILITY. THE LOSS OF YF
RESULTS IN CYTOSKELETAL AND MITOTIC LESIONS. YPTI IS REQUIRED
TRANSIT OF ROTEINS FROM THE ER THROUGH GOLGI COMPARTMENT.

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

PMM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT AND

1: PTM: THE PALMITIC ACID IS R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MUTAGENESIS, AND POSSIBLE FUNCTION.
MEDILINE-8822356; Pubmed-3286011;
Schmitt H.D. Puzioha M., Gallwitz D.;
"Study of a temperature-sensitive mutant of the ras-related YPT1 gene
product in yeast suggests a role in the regulation of intracellular
caiclum.";
PRINTS; PR00449; RASTRNSFRMNG.
SMARR; SM00175; RAB; 1.
TIGREAMS; TIGR00231; small_GTP; 1.
GTP-binding; Lipoprotein; Protein t:
Endoplasmic reticulum; Prenylation;
                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBI outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIINE-88296440; PubMed-3042385;
Molenaar C.M.T., Prange R., Gallwitz D.;
"A carboxyl-terminal cysteine residue is required for palmitic binding and biological activity of the ras-related yeast YPT1 protein.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDILINE-95400/202; PubMed=7670463;
MUTAKAMI Y., Naitou M., Hagiwara H., Shibata T., Ozawa Sasanuma S.-I., Sasanuma M., Tsuchiya Y., Soeda E., Yo Yamazaki M., Tashiro H., Eki T.;
"Analysis of the nucleotide sequence of chromosome VI Saccharomyces cerevisiae.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A. PUBMEDINE=84093563; PubMed=6318115; MEDLINE=84093563; PubMed=6318115; Gallwitz D. Donath C., Sander C.; Gallwitz gene encoding a protein homologous to proto-oncogene product."; Nature 306:704-707(1983).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes; Saccharomycetales; Saccharomycetaceae; Saccharomyces.
NCBI_TaxID=4932;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=S288c / AB
MEDLINE=95400292;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MUTAGENESIS OF EFFECTOR REGION.
MEDLINE=91184123; PubMed=2009858;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cell 53:635-647(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 емво ј.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PALMITOYLATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PTM: THE PALMITIC ACID IS REQUIRED FOR MEMBRANE ATTACHMENT BIOLOGICAL FUNCTION.
SIMILARITY: TO RAS PROTEINS. BELONGS TO THE RAB SUBFAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7:971-976(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10:261-268(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AB972;
                                                                                                                                                                   Ras_trnsfrmng.
Small_GTP.
                                                                                                                                                                                                                           GTPase_Rab
                                                                                                                                                                                                                                                                                                                                          .' .'
      transport; Golgi stack;
n; Palmitate.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          the human c-has/bas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ozawa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Yokoyama
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FOR
```

```
RESULT 15
RBIA_DICDI
ID RBIA_D
AC 934139
DT 01-FEB
DT 01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MUTAGEN
MUTAGEN
MUTAGEN
MUTAGEN
MUTAGEN
MUTAGEN
MUTAGEN
MUTAGEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NP_BIND
NP_BIND
NP_BIND
DOMAIN
                                                                                                                         use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entitles requires a license agreement (See http://www.isbor send an email to license@isb-sib.ch).
                                                                                                                                                                                                     This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                               rab-related genes.";
Gene 136:55-60(1993).
-!- SIMILARITY: TO RAS PROTEINS. BELONGS TO THE RAB SUBFAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Dictyostelium discoideum (Slime mold).
Eukaryota; Mycetozoa; Dictyosteliida; Dictyostelium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-FEB-1994 (Rel. 28,
01-FEB-1994 (Rel. 28,
01-OCT-1994 (Rel. 30,
Ras-related protein Ra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TIPID
                                                                                                                                                                                                                                                                                                                                               Cardelli J.A.; "Cloning and characterization of five novel Dictyostelium discoideum
                                                                                                                                                                                                                                                                                                                                                                                        Bush J.M. IV, Franek K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RB1A_DICDI
P34139;
                                               DictyDb; DD05055;
                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=94124041; PubMed=8294041;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=44689;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RABA OR RABIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
          InterPro;
                              InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MNSEYDYLFKLLLIGNSGVGKSCLLLRFSDDTYTNDYISTIGVDFKIKTVELDGKTVKLQ 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TTQKKEDKGNVNLKGQSLTNTGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATAGGAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IWDTAGQERFRTITSSYYRGSHGIIIVYDVTDQESFNGVKMWLQEIDRYATSTVLKLLVG
                                                                 L21009; AAC37385.1;
P05713; 3RAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       al Similarity
116; Conserv
        DD05055; rabA.
IPR003579; GT
IPR001806; Ra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     206 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            205
206
206
37
39
40
41
43
43
121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          22
67
124
45
205
206
206
37
39
40
41
43
43
171
GTPase_Rab.
Ras_trnsfrmng.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       64.4%;
56.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Created)
                                                                                                                                                                                                                                                                                                                                                                                      Daniel J.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PALMITATE.
GERANYL.
Y->F: NO CHANGE.
S->A: NO CHANGE.
T->S: NO CHANGE.
T->S: NO CHANGE.
T->M: LETHAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 571; DB 1
Pred. No. 1e-40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     D->N: TEMPERATURE-SENSITIVE PHENOTYPE.
N->I: LETHAL.
E -> Q (IN REF. 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -> Q (IN REF. 1).
F8C704F6BF2D227B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                78)
78)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NO CHANGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Y SIMILARITY).
Y SIMILARITY).
Y SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REGION (PROBABLE).
                                                                                                                                             (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                      Spiegelman G.B., Weeks G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 206;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                       restrictions
tent is in
                                                                                                                                                                    and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       36;
                                                                                                                                                                    for
                                                                                                                                                                    commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2;
```

```
밁
                                                                                                                                 Вþ
                                            Вb
                                                               Ş
                                                                                                        Q
                                                                                                                                                    Qy
                                                                                                                                                                                                                          DR DR DR FTT SQ
дob
          Search completed: November 17, 2002, 13:05:10
                                                                                                                                                                         Query Match
Best Local Similarity
Matches 111; Conserv
time : 26 secs
                                                                                                                                                                                                                                              NP_BIND
                                                                                                                                                                                                                                                                           InterPro; IPR005225; Small_GTP.
Pfam; PF00071; ras; 1.
SMART; SM00175; RAB; 1.
TIGRFAMs; TIGR00231; small_GTP; 1.
GTP-binding.
                                                                                                                                                                                                                         DOMAIN
SEQUENCE
                                            121
                                                                 92
                                                                                                          64
                                                                                      61 IWDTAGQERFRTITSSYYRGAHGIIVVYDVTDKLTFENVRQWLQEIDRFACENVNKLLVG
                                                                                                                                  1 MNPDYHYLFKLLLIGDSGVGKSCLLLRFADDTYSESFISTIGVDFKIRTIELNGKTIKLQ
                                                                                                                                            4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                            NKSDLVAKKVVDFNTAKAFADSLQIPFLETSAKQSTNVEQAFMT
                                                                 NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMT
                                                                                                                                                                                                                         37
167 )
                                                                                                                                                                                                                                               15
63
121
                                                                                                                                                                              Conservative
                                                                                                                                                                                                                          AΑ;
                                                                                                                                                                                                                    22
67
124
45
18943
                                                                                                                                                                                       61.2%;
67.7%;
                                                                                                                                                                                                                          , WM
                                                                                                                                                                              10;
                                                                                                                                                                                       Score 542; DB 1
Pred. No. 2e-38;
                                                                                                                                                                                                                        GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
GTP (BY SIMILARITY).
EFFECTOR REGION (BY SIMILARITY).
; 72480B04D943BD8D CRC64;
                                                                                                     -----:ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                               Mismatches
                                                                                                                                                                                                   DB 1;
                                                                                                                                                                               11;
                                                                                                                                                                                                   Length 167;
                                            164
                                                                                                                                                                              Indels
                                                                                                                                                                              32;
                                                                                                                                                                              Gaps
                                                                                                              91
                                                                                                                                  60
                                                                                                                                                        63
```

1;

GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                 Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                  Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                              Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                   Scoring table:
                                                                                                                                                                                                                                                                                                      Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Run on:
                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
  766.5
759.5
700.683
683.660
655.5
644.642
644.642
644.642
636.5
636.5
636.5
                                                                                                                    Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein search, using sw model
                                                                                                                                                                                                                                                                                 SPTREMBL_21:*
1: sp_archea:*
2: sp_bacteria
3: sp_fungi:*
                                                                                                                                                                                                                                                                                                                                                                                            BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                    671580 seqs, 206047115 residues
                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-820-003A-2

1 MSSMNPEYDYLFKLLLIGDS.....EKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                            November 17, 2002, 12:50:47; Search time 81 Seconds (without alignments) 440.076 Million cell updates/sec
   86
85
77
77
77
77
77
77
77
77
                                                                                                                                                                                                                                                                                 sp_archea:*
sp_bacteria:*
sp_fungi:*
                                                                                                                                                                                sp_plant:*
sp_vodent:*
sp_virus:*
sp_vertebrate:*
sp_uclassified:*
sp_rvirus:*
sp_bacteriap:*
sp_archeap:*
                                                                                                                                                                                                                                        sp_organelle:*
sp_phage:*
                                                                                                                                                                                                                                                             sp_human:*
sp_invertebrate:*
sp_mammal:*
                                                                                                                     Length
  201
141
1205
205
205
205
201
201
201
202
202
202
203
203
203
203
                                                                                                                     BG
  09H0U4
1 09DIG1
096N61
01833
016143
09UAO6
09HBIT3
09PBJT7
09PBJT7
09PBJT5
09HDT5
008W4S84
008W4S84
008W4S84
009EH33
                                                                                                                                          SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                   671580
09h0u4 homo sapien
09d191 mus musculu
096n61 homo sapien
01832 drosophila
016143 bombyx mori
09uaq6 caenorhabdi
09het3 aspergillus
09het3 aspergillus
09het3 arabidopsis
040203 lotus japon
09seh3 arabidopsis
09hdt5 trichoderma
008154 pisum sativ
08w4s8 arabidopsis
024112 nicotiana p
09sxt5 cicer ariet
                                                                                                                 Description
```

484	503	563	569	569.5	574	580	581	583.5	587	589	589	90	596.5	598	808	612	616	618.5	619	21	622.5	22	22	623	624	24	627.5	28
	6.	63.5	٠	٠.	4.	5	5	5	6.	6.	٥.	٥.	7.	7.	68.6	9	9	69.8	9	٥.	0	0	٥.	0	0	70.5	0	0
205	200	206	194	205	206	200	201	202	201	451	201	202	207	218	203	221	202	203	202	203	203	203	203	202	129	203	203	203
ഗ	υı	ω	0	10	0		0	0	0	0	0	0		0	0	10	10	10	10	10	10	10	10	0			0	0
Q9BLF3	Q9BHN1	Q9HFM5	Q40202	Q9ZRE2	Q39274	Q25324	Q40201	Q41339	Q43462	Q9LGG3	Q08152	Q9ZRH6	Q96W97	Q39861	Q8RU63	023594	Q08153	Q940Z7	Q08155	Q949E2	Q41340	Q41338	Q9M7P5	Q39845	Q9Y3T2	Q40205	Q40569	Q40204
Q9b1f3 entamoeba h	Q9bhn1 plasmodium	Q9hfm5 kluyveromyc	N	Q9zre2 arabidopsis	39274	leishma			3	oryza	pisum sa	Q9zrh6 petunia hyb	Q96w97 candida alb	Q39861 glycine max		arabid		arabid	pisum	Q949e2 oryza sativ		Q41338 lycopersico		Q39845 glycine max	homo sa	Q40205 lotus japon	nicotia	Q40204 lotus japon

## ALIGNMENTS

O9HOU4 PRELIMINARY; PRT; 201 AA. O9HOU4; O1-MAR-2001 (TrEMBLrel. 16, Last sequence update) O1-JUN-2002 (TrEMBLrel. 21, Last sequence update) O1-JUN-2002 (TrEMBLrel. 21, Last sequence update) O1-JUN-2002 (TrEMBLrel. 21, Last annotation update) O1-JUN-2002 (TrEMBLREL. 21, Last an	OTA 1
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------

```
Q PER COLOR REPORTED TO THE PER COLOR REPORT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RC STRAIN-CSTBL/GG; TISSUE-EMBRYO;
RX MEDLINE-21085660; PubMed-11217851;
RA MEDLINE-21085660; PubMed-11217851;
RA Arakawa T., Shihadawa A., Shibatta K., Yoshino M., Itoh M., Ishii Y.,
RA Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,
RA Kadota K., Matsuda H., Ashburner M., Batalov S., Casavant T.,
RA Kadota K., Matsuda H., Ashburner M., Batalov S., Casavant T.,
RA Kuchi P., Lewis S., Matsud Y., Nikaido I., Pesole G., Quackenbush J.,
RA Kuchi P., Lewis S., Matsud Y., Nikaido I., Pesole G., Quackenbush J.,
RA Schrimi L.M., Stabli F., Szuki R., Tomita M., Wagner L., Wasshio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Gustincich S., Hill D., Hofmann M., Hame D.A., Kamiya M., Lee N.H.,
RA Nordone P., Ringwall M., Rodriguez I., Sakamoto N.,
RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.,
Mynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    品
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local :
                                                                                                                                                  Strausberg R.;
Submitted (OCT-2001) to the EMBL/GenBank/DDBJ databases.
-!- SIMILARITY: TO RAS PROTEINS. BELONGS TO THE RAB SUBE EMBL; AK003609; BAB22888.1; -.
EMBL; BC016408; AAH16408.1; -.
HSSP; P05713; 3RAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ul-JUN-2002 (TrEMBLrel. 21, Last annotation update)
1110011F09R1k protein (RIKEN cDNA 1110011F09 gene).
                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Functional anno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9D1G1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q9D1G1
                                                                InterPro;
                                                                                                                                                                                                                                                                                                                                      TISSUE-KIDNEY;
                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCBI_TaxID=10090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                        Nature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
MGI:1923558; 1110011F09Rik.
zrPro; IPR003579; GTPase_Rab.
zrPro; IPR001806; Ras_trnsfrm
zrPro; IPR002078; Sig54_inter.
zrPro; IPR005225; Small_GTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              G-ERPNLKIDSTPVKPAGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGFGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NKSDLTTKKVVDNTTAKEFADSLGIPFLETSAKNATNVEQAFMTMAAEIKKRMGPGAASG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IWDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESYANVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                        ional annotation of 409:685-690(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FROM N.A.
"579L/6J; TISSUE=EMBRYO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Metazoa; Chordata; C
Metazoa; Rodentia; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (TrEMBLrel. 17, Created)
(TrEMBLrel. 17, Last sequence update)
(TrEMBLrel. 21, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                           ; GTPase_Rab.
; Ras_trnsfrmng.
; Sig54_interact.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                86.5%;
77.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    a full-length mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 766.5; DB 4; Pred. No. 4.1e-54;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Craniata; Vertebrata; Sciurognathi; Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    cDNA collection.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                             SUBFAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ω
3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2;
```

```
밁
                                                    맑
                                                                             Ş
                       Š
                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DR DR DR SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 154
                                                                                                          Matches
                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                  Isogai T.;
"NEDO human cDNA sequencing project.";
Submitted (OCT-2001) to the EMBL/GenBa
EMBL; AK055927; BAB71048.1; -.
InterPro; IPR001806; Ras_trnsfrmng.
InterPro; IPR002078; Sig54_interact.
Pfam; PF00071; ras; 1.
                                                                                                                                                      PROSITE; PSUUU,.,
GTP-binding.
GTP-mance 141 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-DEC-2001 (Tremblrel. 19, 01-DEC-2001 (Tremblrel. 19, 01-DEC-2001 (Tremblrel. 20, 01-MAR-2002 (Tremblrel. 20, CDNA FLJ31365 fis, clone NB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SMART; SMO0175; RAB; 1.
TIGREAMS; TIGRO231; SMAAIL_GTP; 1.
PROSITE; BS00675; SIGMA54_INTERACT_1; UNKNOWN_1.
GTP-binding; Lipoprotein.
SEQUENCE 201 AA; 22187 MW; 870DFF52AEF4B2BE CRC64;
                                                                                                                                                                                                                                                                                         Tashiro H., Yamazaki M., Watanabe K., Kumagai A., Itakura S., Fukuzumi Y., Fujimori Y., Komiyama M., Sugiyama T., Irie R., Otsuki T., Sato H., Wakamatsu A., Ishii S., Yamamoto J., Isono Y., Kawai-Hio Y., Saito K., Nishikawa T., Kimura K., Yamashita H., Matsuo K., Nakamura Y., Sekine M., Kikuchi H., Kanda K., Wagatsuma M., Murakawa K., Kanehori K., Takahashi-Fujii A., Oshima A., Sugiyama A., Kawakami B., Suzuki Y., Sugano S., Nagahari K., Masuho Y., Nagai K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q96N61
                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PR00449; RASTRNSFRMNG SMART; SM00175; RAB; 1.
                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local 154;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             152
                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64
  \omega
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                     ۳
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4
KLQIESFNNYKQWLQEIDRYASENVNKLLVGNKCDLTTKKVVDYTTAKEFADSLGIPFLE
----ESFNNYKQWLQEIDRYASENVNKLLVGNKCDLTTKKVVDYTTAKEFADSLGIPFLE
                                                                   MSSMNPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTIGYDFKIRTIELDGKTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   G-ERPNIKIDSTPVKPASGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NKCDLITKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NKSDLTTKKVVDNTTAKEFADSLGVPFLETSAKNATNVEQAFMTMAAEIKKRMGPGAASG
                                                     MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity 76.2
54; Conservative
                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RAB-1A.
                                                                                                                                                                                     PS00675; SIGMA54_INTERACT_1; UNKNOWN_1
                                                                                                          Conservative
                                                                                                                                                              15330 MW;
                                                                                                                     79.0%;
81.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           85.7%;
76.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19, Created)
19, Last sequence update)
20, Last annotation update)
NB9N41000135, highly similar to RAS-related
                                                                                                                                                                                                                                                                   project.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 759.5;
Pred. No. 1.5e
7; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7;
                                                                                                          0;
                                                                                                                                                                                                                                                        EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             173
                                                                                                                     Score 700;
Pred. No. 5.
                                                                                                                                                              620F588CA34B3A77 CRC64;
                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.5e-53;
8;
                                                                                                                     DB 4;
.8e-49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A
                                                                                                                                                                                                                                                                                                                                                                                                                                Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11;
                                                                                                                                                                                                                                                         databases
                                                                                                          0,
                                                                                                                                 Length 141;
                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                            Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          201;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                33;
                                                                                                          32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
  88
                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                     32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   91
                                                                                                          1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2
```

```
PROBUSE TO 
                                                                                                                                                                                                                                                                                                                   RX MEDILINE-20196006; PubMed=10731132;
RA Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
RA Adams M.D., Celniker S.E., Holt R.M., Hoskins R.A., Galle R.F.,
RA Amanatides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galle R.F.,
RA Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA Brandon R.C., Rogers Y.H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Brandon R.C., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
RA Brandon R.C., Rogers Y.H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
RA Ballew R.M., Basu A., Baxer E.G., Helt G., Nelson C.R., Miklos G.L.G.,
RA Abril J.F., Apbayani A., An H.-J., Andrews Pfannkoch C., Baldwin D.,
RA Becson K.Y., Benos P.V., Berman B.P., Bhandari D., Boushakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C., Daves P., Davies P.,
RA Dodson K., Doup L.E., Downes M., Dugan Rocha S., Dunkov B.C., Dunkov B.C., Dunkov B.C., Ferriacr S., Felstchmann W.,
RA Durbin K.J., Evangelista C.C., Ferriacr S., Felstchmann W.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Hostin D., Houston K.A., Howland T.J., Weil M.-H., Ibeywam C.,
RA Hostin D., Houston K.A., Howland T.J., Weil M.-H., Ibeywam C.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Hostin D., Nelson K.A., Nixon K., McLeed M.P., McDerson D.L.,
RA Merkilov G., Milshina N.Y., Moharry C., Morris J., Moshrefi A.,
RA Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
RA Mornilov G., Milshina N.Y., Moharry C., Morris J., Moshrefi A.,
RA Mornilov G., Milshina N.Y., Moharry C., Morris J., Moshrefi A.,
RA Nerkilov G., Milshina N.Y., Moharry C., Morris J., Moshrefi A.,
RA Spier E., Spradling A.C., Stapleton M., Stheeler F., Shen H.,
RA Spier E., Spradling A.C., Stapleton M., Stapski M.P., Smith T.,
RA Spier E., Spradling A.C., Stapleton M., Zhang G., Zhao Q., Zheng L.,
RA Hostin M., Kalush F., Karper G.H., Zhan M., Zhang G., Zhao Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-JAN-1998
01-JAN-1998
01-JUN-2002
                                                                                                                                   SEQUENCE FROM N.A.
STRAIN-OREGON R; TISSUE-HEAD;
MEDLINE-9728579; PubMed-9074639;
Satoh A.K., Tokunaga F., Ozaki K.;
"Rab proteins of Drosophila melanogaster: novel members
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          018332;
"Rab proteins of Drosophila melai
protein family.";
FEBS Lett. 404:65-69(1997).
-I- SIMILARITY: TO RAS PROTEINS.
EMBL: AE003734. AAPS5873.1;
EMBL: D84312; BAA21705.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A. STRAIN-BERKELEY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Tracheata; He
Eukaryota; Neoptera; Endopterayota; Diptera;
Ephydroidea; Drosophilidae; Drosophila.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RAB1 protein.
RAB1 OR CG332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ephydroidea; Drc
NCBI_TaxID=7227;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TSAKNATNVEQSFMTMAAEIKKRMGPGATAGGAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TSAKNATNVEQSFMTMAAEIKKRMGPGATAGGAEKSNVKIQSTPVKQSGGGCC 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CG3320.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8 (TrEMBLrel.
8 (TrEMBLrel.
2 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           05,
05,
21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                              BELONGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    205
                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hexapoda; Insecta;
a; Brachycera; Muscomorpha;
                                                              THE
                                                              RAB
                                                                                                                                                         of
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 135
                                                     - |- SIMILARITY: TO RAS PROTEINS. BELONGS TO THE RAI
EMBL; AF013572; AAB67169.1; -
RISSP; BO5713; 3RAB.
InterPro; IPR003579; GTPASE_RAI
InterPro; IPR003579; GTPASE_RAI
InterPro; IPR002078; Sig54_interact.
InterPro; IPR00409; RASTRNSFRMNO.
REASTRNS; PR00449; RASTRNSFRMNO.
RASTRNS; PR00449; RASTRNSFRMNO.
RAMART; SM00175; RAB; 1.
RIGRPAMS; TIGR00231; Small_GTP; 1.
ROSITE; PS00675; SIGMA54_INTERACT_1; UNKNOWN_1.
ROSITE; PS00675; SIGMA54_INTERACT_1; UNKNOWN_1.
RECTP-Dinding; Lipoprotein.
SEQUENCE 202 AA; 22364 MM; 0338E895D63CDFE4 CRO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HSSP: P05713; 3RAB.

FlyBase; FBgn0015700; Rabl.

InterPro; IPR002579; GTPase_Rab.

InterPro; IPR002579; GTPase_Trnsfrmng.

InterPro; IPR002579; Sig54_Interact.

InterPro; IPR002078; Sig54_Interact.

InterPro; IPR002078; Simall_GTP.

Pfam; PF00071; ras; 1.

Pfam; PF00071; ras; 1.

RFNO0175; RAB; 1.

RFNO0175; RAB; 1.

FIGRPAMS; TIGR00231; small_GTP; 1.

R TIGRPAMS; TIGR00231; small_GTP; 1.

R PR051TE; P500675; SIGMA54_INTERACT_1; UNKNOWN_1.

M GTP-binding; Lipoprotein.

M GTP-binding; Lipoprotein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                O16143
O16143;
O1-JAN-1998
O1-JAN-1998
O1-JUN-2002
                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. Ueno M Uno T., Nakajima A., Ueno M "Isolation of cDNA encoding mori.";
                                                                                                                                                                                                                                                                                                                                                                       Bombyx mori (Silk moth).

Bombyx mori (Silk moth).

Eukaryota; Metazoa; Artnopoda; Trace
Pterygota; Neoptera; Endopterygota;

Bombycoldea; Bombycidae; Bombyx.
                                                                                                                                                                                                                                                     Submitted (JUL-1997) to the EMBL/GenBank/DDBJ databases.
--- SIMILARITY: TO RAS PROTEINS. BELONGS TO THE RAB SUBFAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Small GTP-binding
                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=7091;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        u
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 KLQI------ESFNNVKQWLQEIDRYASENVNKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   سر
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MSSMNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TAGGAEKSNVKI-QSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SATD-NASKVKIDQGRPVENTKSGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LVGNKSDLTTKKVVDHTTAAEYAAQLGIPFLETSAKSATNVEQAFMTMAAEIKNRVGPPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KLQIWDTAGQERFRTITSSYYRGAHGIIVVYDCTDQESFNNVKQWLEEIERYACENVNKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MSSVNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTI
 al Similarity 66.
135; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            al Similarity
143; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gremblrel.
Gremblrel.
Gremblrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                MBLrel. 05,
MBLrel. 05,
MBLrel. 21,
MBLrel. 21,
                75.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          77.1%; Score 683; DE 69.4%; Pred. No. 2.26 tive 12; Mismatches
                                                                                                                                                                                                                                                                                            Ueno M., Aizono Y.;
ncoding small GTP-binding protein from
Score 671; DB Pred. No. 2e-4 18; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                          0338E895D63CDFE4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9CE2691205FAE343 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                       Tracheata; Hexapoda; Insecta;
ota; Lepidoptera; Glossata; Ditrysia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              202
                            DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 5;
.2e-47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A
 16;
                            Length 202;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
 34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              34;
 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
 ω
••
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ω
--
```

```
В
                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                          Query
Best 1
                                                                                       R InterPro; IPR001579; GTPase_Rab.
R InterPro; IPR001806; Ras_trnsfrang.
R InterPro; IPR002078; Sig54_interact.
R InterPro; IPR002275; Small_GTP.
R InterPro; IPR00225; Small_GTP.
R Pfam; PF00071; ras; 1.
R Pfam; PF0007449; RASTRNSFRMNG.
R PRINTS; PR00449; RASTRNSFRMNG.
R SMART; SM00175; RAB; 1.
R TIGREAMS; TIGR00231; Small_GTP; 1.
R PROSITE; PS00675; SIGMA54_INTERACT_1; UNKNOWN_1.
R PROSITE; PS00675; SIGMA54_INTERACT_1; UNKNOWN_1.
GTP-Dinding; Hypothetical protein; Lipoprotein.
Q SEQUENCE 205 AA; 22545 MW; 5221920FD05842D3 CRC64;
                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence up
01-JUN-2002 (TrEMBLrel. 21, Last annotation
Hypothetical 22.5 kDa protein.
                                                                                                                                                                                                                                "Direct Submission.";
Submitted (SEP-2001) to the EMBL,
-!- SIMILARITY: TO RAS PROTEINS.
EMBL; AF101310; AAC69218.1; -.
                                                                                                                                                                                                                                                                                        [3]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
STRAIN-BRISTOL N2;
Scheet P., Maggi L., Dubbelde C.;
The sequence of C. elegans cosmid C39F7.";
Submitted (OCT-1998) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A. STRAIN-BRISTOL N2; MEDLINE-99069613;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Nematoda; Chromadorea;
Rhabditidae; Peloderinae; Caenorhabditis.
NCBI_TaxID=6239;
                                                                                                                                                                                                                                                                                                                                                                                              Science
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Caenorhabditis elegans.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9UAQ6
                                                                                                                                                                                                                                                                                                                                                                                             "Genome sequence of the nema investigating biology. The C Science 282:2012-2018(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                  None;
                                                                                                                                                                                                                         HSSP;
                                                                                                                                                                                                                                                                                Waterston R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64
Match
Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAPAGHVKIDQGQPIDTGKSSCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAEKSNVKI-QSTPVKQSGGGCC
                                              al Similarity
137; Conser
                                                                                                                                                                                                                       P01112; 1PLL.
                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                            PubMed=9851916;
                                                                                                                                                                                                                                            to the EMBL/GenBank/DDBJ databases AS PROTEINS. BELONGS TO THE RAB SUBJ
                                                        74.5%;
                                                                                                                                                                                                                                                                                                                                                                                                        nematode C. elegans: a pl
The C. elegans Sequencing
                                              16;
                                            Score 660; DB 5;
Pred. No. 1.5e-45;
6; Mismatches 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          on update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rhabditida; Rhabditoidea;
                                                                                                                                                                                                                                                                                                                            databases
                                                                                                                                                                                                                                                                                                                                                                                                                     platform
                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                          Consortium.";
                                             Indels
                                                                                                                                                                                                                                             SUBFAMILY
                                             36;
                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                             4;
```

j

```
RESULT
Q9HET3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                         Ş
                                                                                                Qy
                                                                                                                      В
                                                                                                                                                                                                     SQUERRY TO DESCRIPTION OF STREET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QY
               δã
                                      밁
                                                                              В
                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
 멍
                                                                                                                                                              Matches
                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                       InterPro; IPR003579; (InterPro; IPR001806; InterPro; IPR002078; InterPro; IPR005225; InterPro; IPR005225;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9HET3;
                                                                                                                                                                                                                                                                                                                                 01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation updat secretion related GTPase (SrgB).
                                                                                                                                                                                                             TIGREAMS; TIGRO0231; small_GTP; 1.

PROSITE; PS00675; SIGMA54_INTERACT_1; UNKNOWN_1.

GTP-binding; Lipoprotein.
                                                                                                                                                                                                                                       Pfam; PF00071; ras; 1.
PRINTS; PR00449; RASTRNSFRMNG.
SMART; SM00175; RAB; 1.
                                                                                                                                                                                                                                                                                                                           EMBL;
                                                                                                                                                                                                                                                                                                                                                                                   Punt P.J., Seiboth B., Weenink X.O., Konetschny C., Ram A.F., Montijn R., Van Den Hondel C.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Aspergillus niger.
Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiom; Eurotiales; Trichocomaceae; mitosporic Trichocomaceae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SRGB.
                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN=N402;
                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                        121
                                                                                                  64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                          92
                                                                               61
                                                                                                                                                              Local Similarity es 137; Conserv
                                                                                                                                          4
                                                                                                                     GAGGA - - PGVRITGSQPVQDKKSGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TAGGAEKSNVKIQ-STPVK-QSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KLQI------ESFNNVKQWLQEIDRYASENVNKL
VNNKPTVQVGQGQGVQSGSAGGCC
            GAEKSNVKIQSTPVKQSG--GGCC 173
                                      NKCDLITKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LVGNKCDLTAKRAVETQAAQDYAGQLGIPFLETSAKSSTNVEQAFLTMASEIKSRMGPVQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LVGNKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGA
                                                                               IWDTAGQERFRTITSSYYRGAHGICVVYDVTDMDSFNNVKQWLQEIDRYATEGVNKLLVG
                                                                                                                                                                                                                                                                                                                 P01112; 1PLJ
                                                                                                                                                                                                                                                                                                                          AJ278659; CAC17833.1;
                                                                                                                                                                                                                                                                                                                                                                                                                            FROM N.A.
                                                                                                                                                                                                 /; Lipoprotein.
201 AA; 22303 MW; 8DClA5B0BEBDF378 CRC64;
                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                       ; Ras_trnsfrmng.
; Sig54_interact.
; Small_GTP.
                                                                                                                                                                      74.0%;
                                                                                                                                                                                                                                                                                                       GTPase_Rab.
                                                                                                                                                              12;
                                                                                                                                                                      Score 655.5;
Pred. No. 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
 201
                                                                                                                                                              ed. No. 3.4e-45;
Mismatches 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  205
                                                                                                                                                                                                                                                                                                                                                                                               van Zeijl C.M.,
Kubicek C.P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  201
                                                                                        -ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A
                                                                                                                                                                                 DB
                                                                                                                                                                                 ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eurotiomycetes;
                                                                                                                                                                                 Length
                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                        Lenders
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Aspergillus.
                                                                                                                                                              37;
                                                                                                                                                                                                                                                                                                                                                                                                        ×
                                                                                                                                                                                                                                                                                                                                                                            related
                                                                                                                                                              Gaps
                                                            151
                                                                                                   91
                                                                                                                       60
                                                                                                                                          63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88
                                         177
                                                                                120
                                                                                                                                                              ω
```

```
RESULT 8

OPPBJ7

ID OPPB
AC OPPB
AC OPPB
DT 01-C
DT 0
                                                                                                                                                                                                                                                                                                                    RESULT 9
Q40203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₽
        RN SOCOOO SON DIT DO AC I
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       O9P8J7
OPPBJ7
O1-OCT-2000 (TremBLrel. 1
01-OCT-2000 (TremBLrel. 1
01-OCT-2000 (TremBLrel. 1
01-JUN-2002 (TremBLrel. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HSSP, P01112; 1PLT.
InterPro; IPR003579; GTPase_Rab.
InterPro; IPR001806; Ras_trnsfrmng.
InterPro; IPR002198; sig54_interact.
InterPro; IPR002718; sig54_interact.
InterPro; IPR005225; Small_GTP.
Pfam; Pr00071; ras; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "The secretory genes yptl/yptA and nsfl/nsfA from the filamentous fungi Trichoderma reesel and Aspergillus niger: evidence for globa transcriptional regulation of the secretory pathway in Trichoderma resears."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;
Eurotiales; Trichocomaceae; mitosporic Trichocomaceae; Aspergillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
Salohelmo M., Wang H., Valkonen M., Vasara T., Huuskonen A., Ward M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=105351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Aspergillus awamori
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRINTS; PRO0449; RASTRNSFRMNG.
SMART; SM00175; RAB; 1.
TIGREPAMS; TIGRE0231; Small_GTP; 1.
PROSITE; PS00675; SIGMA54_INTERACT_1; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTP-binding; Lipoprotein.
SEQUENCE 201 AA; 22335 MW; 9D710FB1AEBDE279 CRC64;
Lotus japonicus.
Lotus japonicus.
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
eurosids I; Fabales; Fabaceae; Papilionoideae; Loteae; Lotus.
NCBI_TaxID-34305;
[1]
                                                                                                                                                                                                      Q40203 PRELIMINARY;
Q40203;
Q1-NOV-1996 (TrEMBLrel.
Q1-NOV-1996 (TrEMBLrel.
Q1-JUN-2002 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                      178 VNNKPTVQVGQGQGVQSGSAGGCC 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 IMDTAGQERERTITSSYYRGAHGICVVYDVTDMDSFNNVKQWLQEIDRYATEGVNKLLVG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         госат
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GAEKSNVKIQSTPVKQSG--GGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               73.8%; Score 653.5; DB 3; Length 201; Similarity 67.2%; Pred. No. 5e-45; 37; Conservative 12; Mismatchen 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15,
15,
21,
                                                                                                                                                                                                            . 01, Created)
. 01, Last sequ.
. 21, Last anno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                            Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          201 AA.
                                                                                                                                                                                                                                                                                                                    202 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      37; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
```

```
SEQUENCE FROM N.A.

Or TISSUE-ROOT NODULES;

OX TISSUE-ROOT NODULES;

OX MEDIJIN-97221679; PubMed=9076991;

OX MEDIJIN-97221679; PubMed=9076991;

OX MEDIJIN-97221679; PubMed=9076991;

OX MEDIJIN-97221679; PubMed=9076911;

OX MEDIJIN-97221679;

OX MEDIJIN-972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 10
Q9SEH3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
A CONTROL OF THE PROPERTY OF T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF00071; ras;
PRINTS; PR00449; RA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GTP-binding; Lipoprotein:
SEQUENCE 202 AA; 22633 MW; 91633EBFAD07662F CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TIGREAMS; TIGRO0331; SMA11_GTP; 1.
TIGREAMS; TIGRO031; SMA54_INTERACT_1; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QSEH3;
QSEH3;
QSEH3;
Q1-MAY-2000 (TREMBLrel. 13, Last sequence update)
Q1-MAY-2000 (TREMBLrel. 21, Last annotation update)
Q1-JUN-2002 (TREMBLrel. 21, Last annotation update)
Q1-JUN-2002 (TREMBLrel. 21, Last annotation update)
RAS-related small GTP-binding protein (RAS-related small GTP-binding protein RABIC) (AT4G17530/DL4800C).
RABICO OR AT4G17530.
ARABICO OR AT4G17530.
ARABICO STATEMENT (Mouse-ear cress).
ARABIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q9SEH3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180 NARPPTVQIRGOPVNQK-SGCC 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 NKCDLTENKVYSYETAKAPADEIGIPFMETSAKNATNVEQAFMAMAAEIKNRMA-SQPVN 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 152 GAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
STRAIN-CV. COLUMBIA; TISSUE-EPIDERMAL;
Bischoff F., Godde M., Palme J.;
ALEABLC involved in ER-Golgi traffic in meristematic cells in
                                                                                                                                                     EU Arabidopsis sequencing project;
Submitted (MAR-2000) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                      Submitted (FEB-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=3702;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ 63
            SEQUENCE FROM N.A. Cheuk R., Chen H., Kim C.J., Koesema E.,
                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  92 NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity 65.8 gs 133; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IMDTAGQERFRTITSSYYRGAHGIIVVYDVTDQESFNNVKQWLNEIDRYASENVNKLLVG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                I-----ESFUNVKQWLQEIDRYASENVNKLLVG 91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SM00175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RAB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RASTRNSFRMNG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 72.7%; Score 644; DB 10; Length 202; 65.8%; Pred. No. 2.9e-44; tive 8; Mismatches 27; Indels 34;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         202 AA
                                     Meyers M.C., Banh J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ω
```

```
PARTITION OF THE PARTIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                    O9HDT5 PRELIMINARY; PRT; 202 AA.
O9HDT5; O1-MAR-2001 (TrEMBLrel. 16, Created)
O1-MAR-2001 (TrEMBLrel. 16, Last sequence update)
O1-JUN-2002 (TrEMBLrel. 21, Last annotation update)
               Saloheimo M.L.A., Wanng H., Valkonen M., Vasara T. Riikonen M., Pakula T., Ward M., Penttilae M.; "The secretory genes yptl/yptA and nsfl/nsfA from fungi Trichoderma reesei and Aspergillus niger var for j.bal transcriptional regulation of the secre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bowser L., Carninci P., Dale J.M., Goldsmith A.D., Hayashizaki Y., Ishida J., Jiang P.X., Jones T., Kamiya A., Karlin Neumann G., Kawai J., Liam B., Lee J.M., Lin J., Liu S.X., Miranda M., Narusaka Nguyen M., Onodera C.S., Palm C.J., Pham P.K., Quach H.L., Sakurai Satou M., Seki M., Southwick A., Tang C.C., Toriumi M., Yamada K., Yamanura Y., Yu G., Yu S., Shinozaki K., Davis R.W., Theologis A.,
                                                                                                                                                                                                                                                                                                             Trichoderma reesei (Hypocrea jecorina).
Eukaryota; Fungl; Ascomycota; Pezizomyc
Hypocreales; Hypocreaceae; Hypocrea.
NCBI_TaxID-51453;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Small GTP-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTP-binding; Lipoprotein.
VARIANT 70 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR001806; Ras_trnsfrmng.
InterPro; IPR002078; Sig54_interact.
InterPro; IPR005225; Small_GTP.
Pfam; PF00071; ras; 1.
                                                                                               reesei."
                                                                                                                                                                                                                                           STRAIN-RUTC-30;
                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TIGREAMS; TIGRO0231; small_GTP; 1.
PROSITE; PS00675; SIGMA54_INTERACT_1; UNKNOWN_1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PR00449; RASTRNSFRMNG
SMART; SM00175; RAB; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR003579; GTPase_Rab
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Arabidopsis cDNA clones.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ecker J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Match
SIMILARITY:
3L; AJ277108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GSKPPTVQIRGQPVNQQ-SGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAEKSNVKIQSTPVKQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSEMTMAAEIKKRMGPGATAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDSYLDSYISTIGVDFKIRTVEQDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NKCDLTSQKVVSTETAKAFADELGIPFLETSAKNATNVEEAFMAMTAAIKTRMA-SQPAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IWDTAGQERFRTITSSYYRGAHGIIVTYDVTDLESFNNVKQWLNEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      202 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                   protein YPTI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    70 I
22318 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             72.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL/GenBank/DDBJ databases.
EINS. BELONGS TO THE RAB SUBFAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F -> L.
; 954FA24C3110FC12 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 642; DB 10;
Pred. No. 4.2e-44;
                                                                                                                                                                                                                                                                                                                                                               Pezizomycotina; Sordariomycetes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24;
                                                                                                                secretory
                                                                                                                                                                                                                T., Huuskonen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                          the filamentous
r. awamori: evidence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                             SUBFAMILY
                                                                                                                   pathway
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    34;
                                                                                                                                                                                                                Α.,
                                                                                                                     in T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ψ
```

I

Local Sin

Similarity

Conservative

11;

Indels

33;

Gaps

2

```
RESULT 12
Q08154
                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Sim
Matches 134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR003579; GTPase_Rab
InterPro; IPR001806; Ras_trnsfru
InterPro; IPR002078; Sig54_inter
InterPro; IPR005225; Small_GTP.
Pfan; PF00071; ras; 1.
PRINTS; PR00449; RASTRUSFRNNG.
SMART; SM00175; RAB; 1.
                                                                                                     InterPro; IPR001806; Ras_trnsfri
InterPro; IPR002078; Sig54_inte:
InterPro; IPR005225; Small_GTP.
Pfam; PP00071; ras; 1.
PRINTS; PR00449; RASTRNSFRMNG.
SMART; SM00175; RAB; 1.
                                                                                                                                                                                                                                                                                                                                                 GTP-binding protein.

Plsum sativum (Garden pea).

Plsum sativum (Garden pea).

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheop

Eukaryota; Viridiplantae; Streptophyta; eudicotyledons; core eudicots;

Spermatophyta; Magnoliophyta; eudicotyledons; Vicieae; Pisur

eurosids I; Fabales; Fabaceae; Papilionoldeae; Vicieae; Pisur
                                                                                                                                                                                                                                                                                                                                                                                                                       Q08154
Q08154;
Q1-NOV-1996 (TremBirel. 01,
Q1-NOV-1996 (TremBirel. 01,
Q1-JUN-2002 (TremBirel. 21,
                                                                                                                                                                                              Nagano Y., Murai N., Matsuno R., Sasaki Y.;
"Isolation and characterization of cDNAs that obinding protein from Pisum sativum.";
Plant Cell Physiol. 34:447-455(1993).
-!- SIMILARITY: TO RAS PROTEINS. BELONGS TO THI
EMBL; D12549; BAA02117.1;
-.
HSSP; P05713; 3RAB.
                                                   TIGREAMS; TIGRO0231; small_GTP; 1.
PROSITE; PS00675; SIGMA54_INTERACT_1;
GTP-binding; Lipoprotein,
SEQUENCE 203 AA; 22463 MW; 6F2E100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TIGREÀMS; TIGRÓ0231; small_GTP; 1.
PROSITE; PS00675; SIGMA54_INTERACT_1; UNKNOWN_1.
GTP-binding; Lipoprotein.
SEQUENCE 202 AA; 22421 MW; A660E10E2AB1B2E7
                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                        TISSUE=LEAF
                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=3888;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HSSP; P01112; 1PLJ
                                                                                                                                                                                   InterPro; IPR003579; GTPase_Rab
                                                                                                                                                                                                                                                                                         MEDLINE=94290824; PubMed=8019783;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             64
                         Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MNPEYDYLFKLLLIGDSGYGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NNTKPSVHVGQGQGVGNSSSSSCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAEKSNVKI-QSTPV-KQSGGGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTVKLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IMDTAGQERFRTITSSYYRGAHGICVVYDVTDMDSFNNVKQWLQEIDRYATEGVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22421 MW; A660E10E2AB1B2E7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                71.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      72.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ras_trnsfrmng.
Sig54_interact.
Small_GTP.
                                                                                                                                                          Ras_trnsfrmng.
Sig54_interact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTPase_Rab
                                                                                                                                            Small_GTP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13;
                                                                                                                                                                                                                                                                                                                                                                                                                          Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
Score 636.5; DB 10
Pred. No. 1.2e-43;
1; Mismatches 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 640; DB 3;
Pred. No. 6.1e-44;
3; Mismatches 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                     6F2E1007A31EF3F4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               203
                                                                             UNKNOWN_1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A
                           DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                          update)
                                                                                                                                                                                                                            THE
                                                                                                                                                                                                                                                                  encode
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                             RAB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                        Length
                                                                                                                                                                                                                            SUBFAMILY
                                                                                                                                                                                                                                                                                                                                                                                    Tracheophyta;
                                                                                                                                                                                                                                                                  eleven small
                                                                                                                                                                                                                                                                                                                                                           Pisum
                            203;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           36;
                                                                                                                                                                                                                                                                                                                                                                         Rosidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                  GTP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4;
```

ρy 밁

QΥ Вþ

δã

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                        QΥ
                                                                                                                                                                                           Вb
                                                                                                                                                                                                                      Q
                                                                                          γQ
                                                                                                                       В
                            Š
                                                               В
                                                                                                                                                                                                                                                                 Best Local Similarity
Matches 131; Conserv
                                                                                                                                                                                                                                                                                 Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OBW4SB PRELIMINARY; PRT; 202 AA.
OBW4SB;
O1-MAR-2002 (TrEMBLrel. 20, Created)
O1-MAR-2002 (TrEMBLrel. 20, Last sequence update)
O1-JUN-2002 (TrEMBLrel. 21, Last annotation update)
AT4917530/d14800c.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kim C.J., Chen H., Cheuk R., Koesema E., Meyers M.C., Banh J.,
Bowser L., Carninci P., Chang E., Dale J.M., Goldsmith A.D.,
Bowser L., Carninci P., Chang E., Dale J.M., Goldsmith A.D.,
Hayashizaki Y., Ishida J., Jones T., Kamiya A., Karlin Neumann G.,
Hayashizaki Y., Ishida J., Miranda M., Narusaka M., Stou M.,
Kawai J., Lam B., Lee J.M., Lin J., Miranda M., Narusaka M., Satou M.,
Nguyen M., Onodera C.S., Palm C.J., Quach H.L., Sakurai T., Satou M.,
Seki M., Southwick A., Tang C.C., Toriumi M., Wu H.C., Yamada K.,
Yamamura Y., Yu G., Yu S., Shinozaki K., Davis R.W., Theologis A.,
Ecker J.R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosid
eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                             "Arabidopsis ORR clones.";
submitted (OCT-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AY060495; AAL31108.1; -.
InterPro; IPR0015079; GTPase_Rab.
InterPro; IPR001505; Ras_trnsfrmng.
InterPro; IPR001806; Ras_trnsfrmng.
InterPro; IPR002078; S1954_Interact.
pfam: PF00071; ras; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=3702;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                   Pfam; PF00071; ras; 1.
PRINTS; PR00449; RASTRNSFRMNG.
SMART; SM00175; RAB; 1.
PROSITE; PS00675; SIGMA54_INTERACT_1; UNKNOWN_1.
SEQUENCE 202 AA; 22286 MW; 934FA12C3110FC12 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                152 GAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181 NARPPTVQIRGQPVGQK-GGCC 201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 NKCDLTSQKVVSTETAKAFADELGIPFLETSAKNATNVEEAFMAMTAAIKTRMA-SQPAG 179
  180
                              152 GAEKSNVKIQSTPVKQSGG 170
                                                                                                                               61 IWDTAGQERFRTITSSYYRGAHGIIVTYDVTDLESFNNVKQWLNEIDRYASENVNKLLVG 120
                                                                                                                                                              NKSDLTANRVVSYDTAKEFADQIGIPFMETSAKDATNVEGAFMAMAAAIKDRMASQPSAN 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IWDTAGQERFRTITSSYYRGAHGIIIVYDVTDEESFNNVKQWLSEIDRYASDNVNKLLVG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   I------ESFNNVKOWLQEIDRYASENVNKLLVG 91
GSKPPTVQIRGQPVNQQSG 198
                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                   71.6%; Score 634.5; DB 10; Length 202; 65.8%; Pred. No. 1.7e-43; tive 11; Mismatches 24; Indels 33;
                                                                                                                                                                                                                                                                           24; Indels 33; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Rosidae;
                                                                                                                                                                                                                                                                                 2
```

```
RESULT 14

Q9FPJ
AC Q9FPJ
AC Q9FPJ
D7 Q01-MA
D7 Q1-MA
QC SPET
QC NCB1-JU
RN (1)
RN (1)
RN SEQI
RA SOLU
R
                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QY
                                                            δÃ
                                                                                                                                                           Вр
                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                      Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             O9FPJ4 PRELIMINARY; PRT; 202 AA.

G9FPJ4;
01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
AT5947200 (Putative ras-related small GTP-binding protein).
AT5947200/MQL5_5 OR AT5647200.
AT5947200/MQL5_5 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Shinn P., Chao Q., Brooks S., Chen H., Cheuk R., Johnson-Hopson C., Khan S., Kim C.J., Banh J., Bowser L., Chung M.K., Goldsmith A.D., Khan S., Karlin-Neumann G., Lam B., Lee J.M., Lin J., Liu S.X., Jones T., Karlin-Neumann G., Lam B., Lee J.M., Lin J., Liu S.X., Miranda M., Nguyen M., Palm C.J., Pham P.K., Quach H.L., Sakano H., Miranda M., Toriumi M., Yamada K., Yu G., Davis R.W., Theologis A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Arabidopsis Full Length cDNA Clones.";
Submitted (FEB-2002) to the EMBL/GenBank/DDBJ databases.
1- SIMILARITY: TO RAS PROTEINS. BELONGS TO THE RAB SUBFAMILY.
EMBL, AF3244990; AAG40342.1; -.
EMBL, AF324991; AAL85999.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Yamada K., Liu S.X., Sakano H., Pham P.K., Banh J., Chung M.K., Yamada K., Liu S.X., Sakano H.L., Toriumi M., Yu G., Bowser L., Goldsmith A.D., Lee J.M., Quach H.L., Toriumi M., Yu G., Bowser L., Carninci P., Chen H., Cheuk R., Hayashizaki Y., Ishida J., Jones T., Kaminya A., Karlin-Neumann G., Kawai J., Kim C., Lam B., Lin J., Kamiya A., Karlin-Neumann G., Kawai J., Kim C., Lam B., Lin J., Miranda M., Narusaka M., Nguyen M., Palm C.J., Sakurai T., Satou M., Seki M., Shinn P., Southwick A., Shinozaki K., Davis R.W., Ecker J.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=3702;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Arabidopsis cDNA clones.";
Submitted (MAR-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRINTS; PRO0449; RASTRNSFRNNG.
SMART; SM00175; RAB; 1.
TIGRPAMS; TIGRO231; Small_GTP; 1.
PROSITE; PS00675; SIGMAS4_INTERACT_1; UNKNOWN_1.
GTP-binding; Lipoprotein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HSSP, P05713; 3RAB.
HSSP, P05713; 3RAB.
InterPro; IPR0013579; GTPase_Rab.
InterPro; IPR0012078; Sig54_interact.
InterPro; IPR005225; Small_GTP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00071;
                                                                                                                                                                121
180 GAKPPTVQIRGQPVNQQ-SGCC 200
                                                                           152 GAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                           64
                                                                                                                                                                                                                                           92
                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ 63
                                                                                                                                                                NKNDLTSQKVVSTETAKAFADELGIPFLETSAKNATNVEEAFMAMTAAIKTRMA-SQPAG 179
                                                                                                                                                                                                                                           NKCDLTTKKVVDYTTAKEFADSLGIPFLETSAKNATNVEQSFMTMAAEIKKRMGPGATAG 151
                                                                                                                                                                                                                                                                                                                                IWDTAGQERFRTITSSYYRGAHGIIVTYDVTDLESFNNVKQWLNEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                            I------ESFNNVKQWLQEIDRYASENVNKLLVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           133; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       j; Lipoprotein.
202 AA; 22313 MW; D0129A296C3EFDFC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ras;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       65.8%; 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           71.4%; Score 633; DB 10; 65.8%; Pred. No. 2.2e-43; ive 10; Mismatches 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25; Indels 34; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 202;
                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                              91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ω
```

```
RESULT 15
02411
AC 02411
AC 02411
DT 01-JA
DT 01-JA
DT 01-JA
DT 01-JA
DT Sperm
OC Sperm
OC Aster
OX NCBIL
RN SEQUE
RA Mante
RT diffe
RL Submid
CC -I- (
RT durir
RT duffe
RT SLUE
RA HSSP;
DR HSSP;
DR Inten
DR FAMAR
DR FROS:
CW CTP- (
CW CTP-)
SQ SEQUI
                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                       Ъ
                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                   Д
                                                                                                                                                                                                                                                                                                                                                      δÃ
Search completed: November 17, 2002, 13:06:53 Job time: 83 secs
                                                                              ₽
                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Cloning and characterization of cDNA clones differentially expressed and during somatic embryogenesis of Nicotiana plumbaginifolia: a mRNA differential display approach.";

RT differential display approach.";

C1 - SIMILARITY: TO RAS PROTEINS. BELONGS TO THE RAB SUBFAMILY.

DR EMBL; Y08425; CAA69701.1; -.

DR HSSP; P01112; 1PLL.

FIRTEROO1230; PCPSSE_RAB.

RINTERPO; IPRO01230; PCPSSE_RAB.

RINTERPO; IPRO01230; PCPSSE_RAB.

RINTERPO; IPRO012078; SASTENSFRUNG.

INTERPO; IPRO0525; SMEJS_interact.

DR INTERPO; IPRO05278; SMEJS_interact.

DR PFAM; PF00071; ras; 1.

DR PFAM; TIGRO0231; SMEJL_GTP.

DR PFAM; TIGRO0231; SMEJL_GTP; 1.

DR PROSITE; PS000794; PRENYLATION; UNKNOWN_1.

DR PROSITE; PS000794; PRENYLATION; UNKNOWN_1.

RWAFT; PS000794; PRENYLATION; UNKNOWN_1.

RW GTP-binding; Lipoprotein.

SO SEQUENCE 203 AA; 22516 MW; 13799234FF719DE7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 129; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           O24112 PRELIMINARY; PRT; 203 AA.
O24112;
O1-JAN-1998 (TrEMBLrel. 05, Created)
O1-JAN-1998 (TrEMBLrel. 05, Last sequence update)
O1-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Small GTP-binding protein.
Nicotiana plumbaginifolia (Leadwort-leaved tobacco).
Nicotiana plumbaginifolia (Leadwort-leaved tobacco).
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Asteridae; euasterids I; Solanales; Solanaceae; Nicotiana.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Borisjuk N., Sitailo L., Kaydamov C., Manteuffel R.; "Cloning and characterization of cDNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=4092;
                                                                                                                                                            121
                                                                              181
                                                                                                                                                                                                                                     4 MNPEYDYLFKLLLIGDSGVGKSCLLLRFADDTYTESYISTIGVDFKIRTIELDGKTIKLQ 63
                                                                                                                                                      NARPPTVQIRGQPVNQK-SGCC
                                                                                                     GAEKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                             71.4%; Score 632.5; DB 10; Length 203; 63.9%; Pred. No. 2.5e-43; tive 12; Mismatches 28; Indels 33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Senger S., Tewes A.,
                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                               2
```

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Command line parameters:

MODEL=frame+_p2n.model -DEV=xlh
-Q-/cgn2_1/USFTO_spool/US09820003/runat_13112002_134616_3189/app_query.fasta_1.327
-Q-/cgn2_1/USFTO_spool/US09820003/runat_13112002_134616_3189/app_query.fasta_1.327
-DB=EST -QFMT=fastap -SUFFIX-rst -MINATCH=0.1 -LOOPELT=0 -LOOPEXT=0
-UNITS-bits -START=1 -END=1 - MATRIX-blosum62 -TRANS-human40.0d1 -LIST-45
-DOCALIGN=200 -THR_SCORE-pct -THR_MAX=100 -THR_MIN=0 -ALIGN=15 -MODE-LOCAL
-QUIPMT=pco -NORM-ext -HEAPSIZE-500 -MINLEN+0 -MAXLEN+2000000000
-USER-US09820003_*GCM_11_899_*erunat_13112002_134616_3189 -NCDT-6 -TCPU-3
-NO_XLPXY -NO_MMAP -LARGEQUERY -NEG_SCORES=0 -MAIT -LONGLOG -DEV_TIMEOUT=120
-WARM_TIMEOUT=30 -TWARDADS=1 -XGAPDP=10 -XGAPEXT=0.5 -FGAPDP=6 -FGAPEXT=7
-YGAPDP=10 -YGAPEXT=0.5 -DELOP=6 -DELEXT=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   nucleic search, using frame_plus_p2n model
             5:

6:

7:

7:

9:

9:

110:

111:

113:

113:

114:

115:

115:

116:

116:

117:

117:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

119:

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EST:*
1: en
2: en
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    November 17, 2002, 13:06:58; Search time 1959 Seconds (without alignments) 1430.229 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Xgapop 10.0 , Xgapext
Ygapop 10.0 , Ygapext
Fgapop 6.0 , Fgapext
Delop 6.0 , Delext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-820-003A-2
886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16154066 seqs, 8097743376 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MSSMNPEYDYLFKLLLIGDS.....EKSNVKIQSTPVKQSGGGCC 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GenCore version 5.1.3 Copyright (c) 1993 - 2002 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  em_esthum:*
em_estin:*
em_estmu:*
em_estov:*
em_gss_mus:*
em_gss_other:*
em_gss_pro:*
em_gss_rod:*
                                                                                                                                                      em_gss_hum:*
em_gss_inv:*
em_gss_pln:*
em_gss_vrt:*
em_gss_fun:*
em_gss_mam:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 em_estba:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gb_est2:*
gb_htc:*
gb_est3:*
gb_est4:*
gb_est5:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              em_estro:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       em_estpl:*
                                                                                                                                                                                                                                                                                                                                                                                              em_estom:*
gb_gss:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           em_estfun:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               32308132
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

45	44	43	42	41	40	39	38	37	3 6		J (	2 0	יע	32	31	30	29	28	27	26	2 6	2 4	2 6	) k	٠ ۱ د	22	2 5	19	18	17	16	15	14	13	12	11	10	9	œ	7	თ	ы	4	ω	2	1	No.	1
768.5	σ,	on.	S)	a	g	σv.	σ		769.5	`		775	776	777	777	778.5	780	783	783	/8/	788	α	700.		700	794	705	795	800	800	801	806		808.5	809	814	819	820	822		831.5	847	847	849	860		Score	
86.7			•	•		•		•	٠	٠					٠	٠	٠	٠		٠	•		٠			٠		89.7							•					٠		•					Match	. a
862	837	826	825	821	766	744	643	1047	188	F0//	1077	7,0	676	937	901	588	933	913	839	828	5 L	1034	100	9 9 9	100	1067	0 0	673	890	969	807	855	872	642	945	690	1105	901	864	957	646	944	862	1130	976	948	Length	
14																																															В	
BQ941767	520855			Çī.		Š	AL535937	BM800733	BQ424046	DM# / 000/	24/1/10/10/1	705057	AW913399	BI738727	BM450994	BJ074071	BQ681067	BF970841	B1858729	B1652154	A1048520	B000/908		BG/43332			7	BE692590	2 :	3	66	17	BI684554	9	AL530265							BO926234		M5.	91	L539	1	
941767 AGENCO	L52	601:	L54:	6030	602	õ	L53	×	Ž		DWAJEEOJ PORTOGOJ. Y	MEDEOS 267 - FROTO 11	AW913399 11 52-09 V	BI738727 603358761	BM450994 AGENCOURT	ВJ074071 ВJ074071	BQ681067 AGENCOURT	BF970841 602271483	BI858729 603386319	BI652154 603299164	ALU48520 UNGLIUG.F	BQU6/968 AGENCOURT	71100000 001000 00100000000000000000000	TC0450200 C02046743	TANCOUNT TO TAKE THE PROPERTY OF THE PROPERTY	BM022701 ACENCOTION		BF692590 602248943			60266	60336	BI684554 603306931	вл07310	L530265			ล ด	BO437146 AGENCOURT	BO219698 AGENCOURT	BJ093078 BJ093078		₹	ð	AGENCO			

## ALIGNMENTS

AUTHORS	REFERENCE	ORGANISM	SOURCE	KEYWORDS	VERSION	ACCESSION		DEFINITION	LOCUS	AL539022	KESOLT I
Li,W.B., Gruber,C., Jessee,J. and Polayes,D. Full-length cDNA libraries and normalization	Eukaryota; Metazoa; Chordata; Craniata; Vercebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.  1 (bases 1 to 948)	Homo sapiens	human .	EST.	AL539022.1 GI:12867866	AL539022	prime, mRNA sequence.	AL539022 LTI_FL013_FBrn1 Homo sapiens cDNA clone CS0DF030YG06 5	AL539022 948 bp mRNA linear EST 16-FEB-2001		

```
밁
                                                                                δÃ
                                                                                                                В
                                                                                                                                      ΩV
                                                                                                                                                                  밁
                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                      Дb
                                                                                                                                                                                                                                                                                                                  Ω
                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity: Query Match:
DB:
                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-820-003A-2 (1-173) x AL539022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 No::
646
                                                         586
                                                                                    109
                            129
                                                                                                                   526
                                                                                                                                                                           466
                                                                                                                                                                                                                                                                                           346
                                                                                                                                                                                                                                   406
                                                                                                                                                                                                                                                                                                                                                    286
                                                                                                                                                                                                                                                                                                                                                                                                           226 GGGGTTGGAAAGTCTTGCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      166
                                                                                                                                              89
                                                                                                                                                                                                       69
                                                                                                                                                                                                                                                                65
                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                41
                                                                                                                                                                                                                                                                                                                                                                                                                                        21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MetSerSerMetAsnProGluTyrAspTyrLeuPheLysLeuLeuLeuLeulLeGlyAspSer
                                                                       GluPheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsn
                                                                                                                                                                                                                                                                                                                                                GlyValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyr
            ValGluGlnSerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAla
                                                                                                                                                                      LeuValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLys
                                                                                                                                                                                                                                                                                                                        LysLeuGlnIle-----
GTAGAACAGTCTTTCATGACGATGGCAGCTGAGATTAAAAAGCGAATGGGTCCCGGAGCA
                                                         GAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGAAT
                                                                                                              TTGGTAGGGAACAAATGTGATCTGACCACAAAGAAAGTAGTAGACTACACAACAGCGAAG
                                                                                                                                                                                                                                 TACAGAGGAGCCCATGGCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAAT
                                                                                                                                                                                                                                                                                         AAGCTTCAAATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACCTCCAGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGTCCAGCATGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGACTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BP 191 91006 EVRY cedex - France Email: segref@genoscope.cns.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished (2001)
Contact: Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="Organ: Fetal brain; Vector: pCMVSPORT 6; 1st strand cDNA was primed with a NotI-oligo(dT) primer. Five prime end enriched, double-stranded cDNA was digested with Not I and cloned into the Not I and ECO RV sites of the pCMVSPORT 6 vector. Library was constructed by Life
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    http://fulllength.invitrogen.com"
187 c 239 g 244 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         fliang@lifetech.com URL :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Technologies. Contact: Feng Liang Life Technologies, a division of Invitrogen 9800 Medical Center Drive Rockville, Maryland 20850, USA Fax: (1) 301 610 8371 Email:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone_lib="ITI_FL013_FBrn1"
/dev_Stage="pooled tissue from post conception week, 24 week and 26 week)"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.87e-94
860.00
84.39%
84.39%
97.07%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           National de Sequencage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (1-948)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         948
173
0
0
32
                                                                                                                                                                                                                                                              ----GluSerPheAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  fr.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                fetuses
705
                                                                                   128
                                                                                                                585
                                                                                                                                           108
                                                                                                                                                                        525
                                                                                                                                                                                                    88
                                                                                                                                                                                                                                 465
                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                           405
                                                                                                                                                                                                                                                                                                                        64
                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                           285
                                                                                                                                                                                                                                                                                                                                                                                                                                        40
```

4

```
RESULT 2
BM919860
LOCUS
Ş
                                 B
                                                           δÃ
                                                                                                  В
                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                   US-09-820-003A-2 (1-173) x BM919860 (1-976)
                                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                     Query Match:
                                                                                                                                                                                                                                       Best Local Similarity:
                                                                                                                                                                                                                                                       Percent Similarity:
                                                                                                                                                                                                                                                                                                      Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                           BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                        .
No
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                   177
                                   237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          169
                                 Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Life Technologies, Inc.
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LL
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information
found through the I.M.A.G.E. Consortium/LLNL at:
http://inage.llnl.gov
Plate: LLAM12779 row: f column: 04
High quality sequence stop: 757.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlyGlyGlyCysCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IleSerThrIleGlyValAspPheLysIleArgThrIleGluLeuAspGlyLysThrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BM919860 976 bp
AGENCOUTE_6708189 NIH_MGC_120 Homo
5', mRNA sequence.
BM919860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; 1 (bases 1 to 976)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BM919860.1 GI:19370239
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                    /note="Organ: pooled pancreas and spleen; Vector: pcMV-SPORT6; Site_1: NotI; Site_2: EcoRV (destroyed); RNA source anonymous pool of spleen and pancreas from 28 yo male. Library is oligo-dT primed and directionally cloned (EcoRV site is destroyed upon cloning). Average insert size 1.5 kb, insert size range 1-2.5 kb. Library is normalized and enriched for full-length clones and was constructed by C. Gruber (Invitrogen). Research Genetics tracking code 025. Note: this is a NIH_MGC Library." a 196 c 246 g 248 t 1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone="IMAGE:5749635"
/clone_lib="NIH_MGC_120"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /lab_host="DH10B"
                                                                                                                                                                                                      1.95e-94
860.00
84.39%
84.39%
97.07%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          173
                                                                                                                                                                                                                                                                      Length: Matches:
                                                                                                                                                                                                                     Mismatches:
Indels:
                                                                                                                                                                                                                                                     Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sapiens cDNA clone IMAGE:5749635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hominidae;
                                                                                                                                                                                                      976
173
0
0
32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EST 12-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (LLNL)
 60
                                                                                                   236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  bе
```

Tissue Procurement: ATCC  CDNA Library Preparation: Life Technologies, Inc.  CDNA Library Preparation: Life Technologies, Inc.  CDNA Library Preparation: Life Technologies, Inc.  CDNA Sequencing by: Agencourt Bioscience Corporation  Clone distribution: MC clone distribution information can be  found through the I.M.A.G.E. Consortium/LLNL at:  http://lmage.llnl.gov  plate: LLAM12185 row: a column: 23  High quality sequence stop: 597.  Location/Qualifiers  //db_xref="taxon:9806"  //clone="IMAGE:5320670"  //clone="IMAGE:5320670"  //clone=Lib="NHLMGC.71"  //lab_bost="NHLMGC.71"  //lab_bost="NHLMGC.71"  //lab_bost="NHLMGC.71"  //lab_bost="NHLMGC.71"  //lab_bost="NHLMGC.71"  //lab_bost="NHLMG.71"  //lab_bost="Sali; Cloned unidirectionally. Primer: Oligo dT.  Average insert size 2.1 kb. "	DEFINITION AGENCORT_6426035 NIH_MGC_71 Homo sapiens cDNA clone INAGE:5520670  ACCESSION BM542833  VERSION BM542833  VERSION BM542833.1 GI:18772697  KEYWORDS  EST  ORGANISM Homo sapiens ELKaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; primates; Catarrhini; Hominidae; Homo.  REFERENCE 1 (bases 1 to 1130)  AUTHORS NHH-MGC http://mgc.nci.nih.gov/.  NHI-MGC http://mgc.nci.nih.gov/.  OURNAL Unpublished (1999)  COMMENT Contact: Robert Strausberg, Ph.D. Email: cqapbs.remail.nih.gov	109 GlupheAlaAspSerieuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsn	Db 297 ATCAGCACTTGGTGTGGGATTTCAAAATAAGAACTATAGACGGGAAAACAATC 356  Qy 61 LysLeuGlnIle
Oy 169 GlyGlyCysCys 173  Db 778 AGTGGAGGTTGCTGC 792  RESULT 4  BQ223273  LOCUS  DEFINITION AGENCOURT_7518264 NIH_MGC_92 Homo sapiens cDNA clone IMAGE:6066561  5', mRNA sequence.  ACCESSION BQ23273  VERSION BQ23273.1 GI:20404673  SOURCE  ORGANISM Homo sapiens  Exit aryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;  Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.  NIH-MGC http://mgc.nci.nih.gov/.  NIH-MGC http://mgc.nci.nih.gov/.  Unpublished (1999)	Oy 109 GLUMANIUS CYSKS DEGUTIN THE YS LYS VALVALAS PYTETITIALALYS 108  1		### BASE COUNT 319 a 241 c 290 g 280 t  ORIGIN  Alignment Scores:  Pred. No.:  849.00  Score:  B49.00  ##################################

```
В
                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
밁
                                     QΥ
                                                                                                                                                                                                                   Ъ
                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                      DЪ
                                                                                                                                                                                                                                                                                                                                                                             γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity: Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-820-003A-2 (1-173) x BQ223273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                         539
                                                                                                                                                                                                                                                                                                                                    479
                                                                                                                                                                                                                                                                                                                                                                                                                                                   419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                41
                                                                                                                                                                                                                                                                          89
                                                                                                                                                                                                                                                                                                                                                                                           69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MetSerSerMetAsnProGluTyrAspTyrLeuPheLysLeuLeuLeuIleGlyAspSer
                                                                                                     GlyValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyr
                    ValGluGlnSerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAla
                                                                                                                                                                                                                   TACAGAGGAGCCCATGGCATCATAGTTGTGTGATGATGATGACAGATCAGGAGTCCTTCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LysLeuGlnIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATCAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGGTTGGAAAGTCTTGCCTTCTTTAGGTTTGCAGATGATACATATACAGAAAGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGTCCAGCATGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGACTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGCTTCAAATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACCTCCAGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            http://image.llnl.gov
Plate: LLAM13344 row: k column:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Agencourt Bioscience Corporation Clone distribution: MGC clone distribution information can found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        quality sequence stop: 728.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            þ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone="IMAGE:6065561"
/clone_lib="NIH_MGC_92"
/tissue_type="embryonal carcinoma, cell line"
/tissue_type="embryonal carcinoma, cell line"
/tissue_type="embryonal carcinoma, cell line"
/tissue_type="embryonal"
/lab_host="DHIOB (phage-resistant)"
/note="Organ: testis; Vector: pCMV-SPORT6; Site_1: NotI;
/fore="Organ: testis; Vector: pCMY-SPORT6; Site_1: NotI;
/fore="IMAGE:6065651"
/tissue_type="cell line"
/tissue_type="
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6.26e-93
847.00
83.98%
83.98%
95.60%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (1-862)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -GluSerPheAsn
                                                                                                                                                               128
                                                                                                                                                                                                                      598
                                                                                                                                                                                                                                                                          108
                                                                                                                                                                                                                                                                                                                                 538
                                                                                                                                                                                                                                                                                                                                                                                      88
                                                                                                                                                                                                                                                                                                                                                                                                                                                   478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20
```

```
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 5
BQ926234
LOCUS
                                                                                                       Ωy
                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
ORIGIN
ΩV
                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-820-003A-2 (1-173) x BQ926234 (1-944)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match: DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             719
                                                            140
   64
                                                                                                                44
                                                                                                                                                                                90
                                                                                                                                                                                                                                                                                                   20
                                                                                                                                                                                                                                                                                                                         4 MetAsnProGluTyrAspTyrLeuPheLysLeuLeuIleGlyAspSerGlyValGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Susan L. Sullivan, PhD.
CDNA Library Preparation: ResGen, Invitrogen Corp
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLAM13745 row: n column: 12
High quality sequence stop: 750.
Location/Qualifiers
                                                         Gly-GlyGlyCysCys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGATTCTGGGGTTTGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unpublished (1999)
Contact: Robert Strausberg,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BQ926234 944 bp mRNA linear EST 20-AUG-2002 AGENCOURT_8801639 NIH_MGC_129 Mus musculus cDNA clone IMAGE:6315467 c, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus 1 (bases 1 to 944)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BQ926234.1 GI:22341265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               house mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /lab_host="DH10B (phage-resistant)"
/note="Organ: olfactory epithelium; Vector:
/note="Organ: olfactory epithelium; Vector:
/note="Organ: olfactory epithelium; Vector:
/note="Organ: olfactory epithelium; Vector:
/note="Organ: Olfactory epithelium; Vector: Note: the constructed by ResGen, Invitrogen Corp. Note: the Note: the olfactory epithelium; Vectory epithelium; Vectory epithelium; Vectory epithelium; Vectory epithelium; Vectory epithelium; Vectory epithelium; Vector:
/note="Organ: Olfactory epithelium; Vector: Note: the constructed by ResGen, Invitrogen Corp. Note: the constructed by R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        įs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Mus musculus"
/db_xref="taxon:10090"
/clone="IMAGE:6315467"
/clone_lib="NIH_MGC_129"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7.2e-93
847.00
84.16%
84.16%
95.60%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NIH_MGC
182 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Library.'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length:
Matches:
Conservative:
Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             266 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              944
170
0
0
32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EST 20-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (LLNL)
                                                                                                                                                                                   139
                                                                                                                                                                                                                                          43
      64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   be
```

SOUTCE SOUTCE SIN	THORS THORS THE	JLT 6 J3078 JS INITION ENITION SION JON JORDS WCE CANISM	132 S 500 T 152 G 560 G 172 C	200 / 65 - 260 c 72 c 72 c 320 c 92 / 92 / 112 / 440 c
Email: tshini@genes.nig.ac.jp. Location/Qualifiers 1646 Location/Qualifiers 2646 Location/Qualifiers 1646 Location/Qualifiers 2646 Location/Qualifiers 2646 Location/Qualifiers 2646 Location/Qualifiers 2646 Location/Qualifiers 2646 Location/Qualifiers 2646 Library "Xenopus laevis" 2646 Library "Xenopus laevis gastrula 2646 Library "Xenopus laevis gastrula 2646 Library is continued 2646 Library is continued 2646 Library is subtracted 2646 A.M. Zorn, 2646 Library "Xenopus laevis" 2646 Library is subtracted 2646 Library is subtracted 2646 Library is continued 2646 Library is	1 (bases 1 to 646) Kitayama, A., Terasaka, C., Mochii, M., Ueno, N., Shin-i, T. and Kohara, Y. Expressed genes in X. laevis embryo Unpublished (2001) Contact: Tadasu Shin-i Center For Genetic Resource Information National Institute of Genetics 1111 Yata, Mishima, Shizuoka 411-8540, Japan Tel: 81-559-81-6856	BJ093078 BJ093078 NIBB Mochii normalized Xenopus early gastrula library Xenopus laevis cDNA clone XL141f18 5', mRNA sequence. BJ093078.1 GI:17592487 EST. African clawed frog. Xenopus laevis Chordata; Craniata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae; Xenopodinae; Xenopus.	SerPheMetThrMetAlaAlaGluIleLysLysArgMetGlyProGlyAlaThrAlaGly 151	ATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACTTCCAGTTATTACAGAGGA 259
RESULT 7 B0219598 LOCUS LOCUS LOCUS DEFINITION AGENCOURT_7578277 NCI_CGAP_Stl Mus musculus cDNA clone INAGE:6051445 5', mRNA sequence.  RCESSION RCIUSS B0219698 LOCUS REFERINTO B0219698 LOCUS B0219698.1 GI:20401098 EST. CORGANISM LOCUS BOUSE LOCU	Db: 515 GTAGAGCAGGCCTTCATGACAATGGCAGGGAGATCAAAAAGCGAATGGCCCTGGCGCC 574  Qy 149 ThrAlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnSer 168	o ASIVALLYSCHITTPHEUCING LIERSPAGITYFALESIG LUASIVALLYSCHILLISH	41 ILSSETTNI ILEGLYVALASPPHELYSTLEAGTH ILEGLULGUASPOLYLYSTNI ILEGLIVGUASPOLYLYSTNI ILEGLIVGUASPOLYLYSTNI ILEGLIVGUASPOLYLYSTNI ILEGLIVGUASPOLYLYSTNI ILEGLIVGUASPOLYLYSTNI ILEGLI ILI ILI ILI ILI ILI ILI ILI ILI ILI	Ignment Scores:   3.16e-91   Length:   646

TITLE JOURNAL COMMENT

FEATURES

BASE COUNT ORIGIN

REFERENCE AUTHORS

RESULT 6
BJ093078
LOCUS
DEFINITION

δÃ

밁

Q 밁 Q В Qy

밁

QΥ

Δþ δĀ Ъ Qy В

В

ACCESSION VERSION KEYWORDS SOURCE ORGANISM

```
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-820-003A-2 (1-173) x BQ219698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
 169
                                                                                                                                       129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>8</u>0
::
                                   740
                                                                   149
                                                                                                     089
                                                                                                                                                                         620
                                                                                                                                                                                                                                                                                                            500
                                                                                                                                                                                                                                                                                                                                                                                440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     109
                                                                                                                                                                                                                                          560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       260
                                                                                                                                                                                                                                                                                                                                                                                                                                                  380
                                                                                                                                                                                                                                                                          89
                                                                                                                                                                                                                                                                                                                                              69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                  65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21 GlyValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyr
GlyGlyGlyCysCys
                                                                                                LysLeuGlnIle-----
                                              ThrAlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnSer
                                                                                                                                                                                                                                                                                                                                                                            TACAGAGGAGCCCATGGCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GluPheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsn
                                                                                                                                                                                                                                                         LeuValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLys 108
                                                                                                                                                                                                                                                                                                         AsnValLysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGGGTTGGAAAGTCCTGCCTTCCCTTAGGTTTGCAGATGATACGTATACGGAAAGCTAC
                                                                                                                                                                                                                                       TTGGTAGGGAACAAATGTGACCTGACCACAAAGAAAGTAGTAGACTACACAACAGCAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATCAGCACAATTGGTGTGGATTTCAAGATACGAACTATAGAGTTAGATGGGAAAACAATC
                                ACAGCTGGTGCTGCCGAGAAATCCAT-GTTAAAATCCAGAGCACTCCAGTCAAGCAATCA
                                                                                                                                                                   GAATTTGCAGATTCCCTTGGAATTCCATTTTTGGAAACCAGTGCTAAGAACGCAACGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGCTACAGATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACTTCCAGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDNA Library Preparation: Life Technologies, Inc. CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Agencourt Bioscience Corporation Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         http://image.llnl.gov
Plate: LLAM13305 row
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       quality sequence stop: 671.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone="IMAGE:6051445"
/clone_lib="NCI_CGAP_St1"
/clone_lib="NCI_CGAP_St1"
/lab_host="DH10B_(T1-resistant)"
/note="Organ: stomach; Vector: pCMV-SPORT6; Site_1: SalI;
/site_2: NotI; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 1.77 kb. Library constructed by Life
Technologies. Note: this is a NCI_CGAP_Library."
a 208 c 250 g 229 t 1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3.59e-90
825.00
83.41%
83.41%
93.12%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         row: e column:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (1-957)
                                                                                                                                                                                                                                                                                                                                                                                                            -----GluSerPheAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative: Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length:
Matches:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Site_1: SalI;
er: Oligo dT.
                                                                168
                                                                                                 739
                                                                                                                                   148
                                                                                                                                                                     679
                                                                                                                                                                                                       128
                                                                                                                                                                                                                                       619
                                                                                                                                                                                                                                                                                                          559
                                                                                                                                                                                                                                                                                                                                         88
                                                                                                                                                                                                                                                                                                                                                                            499
                                                                                                                                                                                                                                                                                                                                                                                                              83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20
```

Ş

Š 밁 δÃ 밁 δÃ

밁

ρy 밁 δÃ В δÃ

В

γQ

В

Qy

밁

δÃ

밁 Ş

밁

```
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 8
BQ437146
LOCUS
                           δÃ
                                                                 뫄
                                                                                               Qy
                                                                                                                                   В
                                                                                                                                                                 Qy
                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                   Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOURCE
ORGANISM
 밁
                                                                                                                                                                                                                                                                                                                                     UŞ-09-820-003A-2 (1-173) x BQ437146 (1-864)
                                                                                                                                                                                                                                                                                                                                                                                         Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                          Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Alignment Scores:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                         No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   799
                                                                                                                                   304
                                                                                                                                                                                                       244
 424
                                                                 364
                                                                                                                                                                                                                                                                     184 ATGTCCAGCATGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGACTCA
                                                                                                  61
                                                                                                                                                                    41
                                                                                                                                                                                                                     21 GlyValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyr
                                                                                                                                                                                                                                                                                   1 MetSerSerMetAsnProGluTyrAspTyrLeuPheLysLeuLeuLeuLleGlyAspSer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         o', mRNA sequence.
BQ437146
BQ437146.1 GI
                                                                                                                                                      IleSerThrIleGlyValAspPheLysIleArgThrIleGluLeuAspGlyLysThrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TACAGAGGAGCCCATGGCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAAT 483
                                                                   AAGCTTCAAATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACCTCCAGTTAT
                                                                                                  LysLeuGlnIle---
                                                                                                                                     ATCAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATC
                                                                                                                                                                                                     GGGGTTGGAAAGTCTTGCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          High quality sequence stop: 658.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         found through the I.M.A.G.E. Consortium/LLNL at: http://image.llnl.gov
Plate: LLAM13500 row: e column: 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unpublished (1999)
Contact: Robert Strausberg,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mammalia; Eutheria;
1 (bases 1 to 864)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGENCOURT_7909781 NIH_MGC_71 Homo 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /db_xref="taxon:9606"
/clone="IMAGE:6156281"
/clone="IMAGE:6156281"
/clone=lib="NIH_MGC_71"
/clone_tib="NIH_MGC_71"
/tissue_type="leiomyosarcoma"
/lab_host="DH10B (phage-resistant)"
/note="Organ: uterus; Vector: pCMV-SPORT6; Site_1: NotI;
Site_2: SalI; Cloned unidirectionally. Primer: Oligo dT.
Average insert size 2.1 kb. "
a 171 c 231 g 213 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                        7.15e-90
822.00
82.93%
82.93%
82.93%
92.78%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            . 864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   813
                                                                                                                                                                                                                                                                                                                                                                                                                                      Length: Matches:
                                                                                                                                                                                                                                                                                                                                                                      Gaps:
                                                                                                                                                                                                                                                                                                                                                                                         Indels:
                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches:
                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ph
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sapiens cDNA clone IMAGE: 6156281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gene Collection (MGC)
                                                                                                                                                                                                                                                                                                                                                                      864
170
0
2
33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                               -GluSerPheAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EST 24-MAY-2002
                                  68
                                                                                                                                                                                                                                      40
                                                                                                                                                                                                                                                                     243
                                                                                                    64
                                                                                                                                     363
                                                                                                                                                                    60
                                                                                                                                                                                                     303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           bе
```

64 B 64

Ş В

οy 밁

Qy В QΥ В

멍

```
RESULT 9
BQ944368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                 Alignment Scores:
Pred. No.:
                                                                                                                                                                                        BASE COUNT
Percent Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  604 GAATTTGCTGATTCCCTTGGAATTCCGTTTTTGGAAACCAGTGCTAAGAATGCAACGAAT 663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       544 TTGGTAGGGAACAAATGTGATCTGACCACAAAGAAGTAGTAGACTACAACAACAGCGAAG 603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     109 GlupheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAsn 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 89 LeuvalGlyAsnLySCysAspLeuThrThrLySLysValvalAspTyrThrThrAlaLys 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGTGGGAGGTTGC 796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gly-GlyGlyCys 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BQ944368 901 bp mRNA linear EST AGENCOURT 8858773 NCI_CGAP_Mam2 Mus musculus cDNA clone IMAGE:6441874 5', mRNA sequence.
BQ944358 BQ944368.1 GI:22359846
EST house mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sclurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 901) of the control of t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cyapbs-remail.nih.gov
Tissue procurement: Gilbert Smith, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   High quality
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             http://image.llnl.gov
Plate: LLAM13965 row: m column: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cDNA Library Preparation: Life Technologies, Inc. cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Agencourt Bioscience Corporation Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
                                                                                                                                                                                                                                                                                                                                                  /organism="Mus musculus"
/strain="FVB/N-3"
/strain="FVB/N-3"
/db_xref="taxon:10090"
/clone="INAGE:6441874"
/clone=_11b="NCI_CGAP_Mam2"
/tlssue_type="tumor, biopsy sample"
/tlssue_type="tumor, biopsy sample"
/lab_host="DH10B"
                                                                                                                                                                                        /note="Organ: mammary; Vector: pCMV-SPORT6; Site_1: SalI; Site_2: NotI; Cloned unidirectionally. Primer: Oligo dT. Library constructed by Life Technologies. Investigator providing samples: Gilbert Smith, NIH" providing samples: Gilbert Smith, NIH" a 197 c 243 g 214 t 1 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ity sequence stop: 662.
Location/Qualifiers
           1.34e-89
820.00
82.61%
           Length:
Matches:
Conservative:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST 21-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity:
Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-820-003A-2 (1-173) x BQ944368 (1-901)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         덩
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 10
BM452262
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              308 ATCAGCACAATTGGTGGGATTTCAAGATACGAACTATAGAGTTAGATGGGAAAACAATC 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          428 TACAGAGGAGCCCATGGCATCATAGTTGTGTATGATGATGACAGATCAGGAGTCCTTCAAT 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    368 AAGCTACAGATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACTTCCAGTTAT 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 LysLeuGlnIle 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  41 IleSerThrIleGlyValAspPheLysIleArgThrIleGluLeuAspGlyLysThrIle 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       65 ------GluSerPheAsn 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 788
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     728 ACAGCTGGTGGTGGCCGAGAAGTCCCATGTTAAAATCCAGAGNACTCCAGTCCAAGCAGC 787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   149 ThrAlaGlyGly-AlaGluLysSerAsnValLysIleGlnSerThrProVal-LysGlnS 168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                168 erGlyGlyGlyCysCys 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGGTGGAGGCTGCTGC 804
                                  NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
National Institutes of Health, Mammalian Gene Collection (MGC)
National Institutes of Health, Mammalian Gene Collection (199)
Contact: Robert Strausberg, Ph.D.
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Email: cgapbs-r@
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1105 bp mrNA linear EST 05-FEB-2002
AGENCOURT_6386191 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:5526635
5', mrNA sequence.
                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Chordata; Craniata; Hominidae; Homo.
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 1105)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5', mRNA sequence.
BM452262
BM452262.1 GI:18501302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         82.13%
92.55%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches:
Indels:
```

```
Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                  B
                                                                                                      δõ
                                                                                                                                                                                                                                                                                                            g 8
                                                                                                                                                                                                                                                                                                                                                                              40
A0
                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alignment
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE CO
                        Ş
                                                                                                                                                   밁
                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                               δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-820-003A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
781
                                                                          722
                                                                                                                                                         662
                                                                                                                                                                                                                                                                                                              542
                                                                                                                                                                                                                                                                                                                                                                                          482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       242
                                      169
                                                                                                                                                                                                                                                                        109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   182
                                                                                                                                                                                                                                                                                                                                                  89
                                                                                                                                                                                                                                                                                                                                                                                                                                 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21
                                                                      IleSerThrIleGlyValAspPheLysIleArgThrIleGluLeuAspGlyLysThrIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GlyValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NGGTGGAGGTTGCTGC
                    -GlyGlyGlyCysCys
                                                                                                                                                   TACAGAGGAGCCCATGGCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAGCTTCAAATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACCTCCAGTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LysLeuGlnIle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATCAGCACAATTGGTGTGGATTTCAAAATAAGAACTATAGAGTTAGACGGGAAAACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGGGTTGGAAAGTCTTGCCTTCTTAGGTTTGCAGATGATACATATACAGAAAGCTAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         found through the I.M.A.G.E. Consortium/LLNL
http://image.llnl.gov
Plate: LLAM12200 row: j column: 12
High quality sequence ston: 777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   e: LLAM12200 row: j co-
quality sequence stop:
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (1-173) x
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="IMAGE:5526635"
/clone_lib="NHH_MGC_72"
/tissue_type="melanotic melanoma"
/tissue_type="melanoma"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2.43e-89
819.00
83.50%
83.50%
92.44%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BM452262
  796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (1-1105)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1105
172
0
1
34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -GluSerPheAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Primer: 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1: NotI;
: Oligo dT.
1 by Life
                                                                                                                                                                                                                                                                                                                                                  108
                                                                                                                                                                                                                                                                                                                                                                                                                             88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         40
                                                                                                                                                                                                                                 661
                                                                                                                                                                                                                                                                                                              601
                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
```

```
BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                   Alignment
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCUS
DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 11
AW954378
                                                                                                                                                                                                                                                                    Qy
뮸
              QΥ
                                       B
                                                       QY
                                                                                B
                                                                                                Qy
                                                                                                                      밁
                                                                                                                                         δÃ
                                                                                                                                                                  멂
                                                                                                                                                                                 δĀ
                                                                                                                                                                                                           멍
                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                 Query Match: DB:
                                                                                                                                                                                                                                                                                                                                    Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                                            US-09-820-003A-2
                                                                                                                                                                                                                                                                                                                                                          Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                    151
 391
                                                                                                                          211
                                        331
                                                                                 271
                                                            69
                                                                                                                                                                                      41
                   89
                                                                                                       65
                                                                                                                                               61
                                                                                                                                                                                                            91
                                                                                                                                                                                                                               21
                                                                                                                                                                                                                                                    3
                                                                                                                                                                 MetSerSerMetAsnProGluTyrAspTyrLeuPheLysLeuLeuIleGlyAspSer
 TTGGTAGGGAACAAATGTGATCTGACCACAAAGAAAGTAGTAGACTACACAACAGCGAAG
          LeuValGlyAsnLysCysAspLeuThrThrLysLysValValAspTyrThrThrAlaLys
                                       AAGCTTCAAATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACCTCCAGTTAT
                                                                                                                                               LysLeuGlnIle-----
                                                                                                                                                                                                                                                    ATGTCCAGCATGAATCCCGAATATGATTATTTATTCAAGTTACTTCTGATTGGCGACTCA
                                                                                 TACAGAGGAGCCCATGGCATCATAGTTGTGTATGATGACAGATCAGGAGTCCTTCAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: John Quackenbush
The Institute for Genomic R
9712 Medical Center Dr., Ro
Tel: 301 838 3528
Fax: 301 838 0208
Email: johnq@tigr.org
Plate: 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AW954378
EST366448 MAGE
AW954378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 (bases 1 to 690)
Hegde, P., Q1, R., Abernathy, K.,
, I.E., Saeed, A.I., Sharov, V., I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  metastasis using a 
Unpublished (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Assessment of gene expression metastasis using a 19,200 eler
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota;
Mammalia; F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AW954378.1
ÉST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Quackenbush,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                            219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   primer: Reverse
                                                                                                                                                                                                                                                                                            (1-173) x AW954378
                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone_lib="MAGE resequences,
/note="Vector: pBluescriptSKm"
130 c 168 g 173 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eutheria;
                                                                                                                                                                                                                                                                                                               4.81e-89
814.00
83.25%
83.25%
91.87%
10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GI:8144061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                resequences, MAGC Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Chordata;
Primates;
                                                                                                                                                                                                                                                                                            (1-690)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     c Research
Rockville,
                                                                                                                                                                                                                                                                                                               Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sion patterns
element cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Craniata; Vertebrata; Catarrhini; Hominidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lee, N.H., Yeatman, T.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              in a model
microarray
                                                                                                                                                                                                                                                                                                                 690
169
0
33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
ens cDNA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        mode1
                                                                                             -GluSerPheAsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            , Gay,C.,
and
  450
                                                             88
                                                                                  330
                                                                                                      89
                                                                                                                          270
                                                                                                                                                                    210
                                                                                                                                                                                       60
                                                                                                                                                                                                             150
                                                                                                                                                                                                                               40
                                         390
                                                                                                                                               64
                                                                                                                                                                                                                                                                        20
```

Sale

```
RESULT 12
AL530265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                     Percent Similarity:
Best Local Similarity:
Query Match:
DB:
                                                                                                                                                                                                                                                                                                            BASE COUNT
ORIGIN
                                                                                                               US-09-820-003A-2 (1-173) x AL530265 (1-945)
                                                                                                                                                                                                                                                      Alignment Scores:
pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               631 AGGTGGG 637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    168 rGlyGly 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                     21 GlyvalGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyr 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AL530265 945 bp mRNA linear EST 13-FEB-2001 AL530265 LTI_NFL001_NBC4 Homo sapiens cDNA clone CS0DD009YH19 5 prime, mRNA sequence. AL530265 AL530265 GI:12793758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Eukaryota; Eutheria; Primates; Catarrhini; Hominidae; Homo. Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 945)
Li,W.B., Gruber,C., Jessee,J. and Polayes,D. Full-length cDNA libraries and normalization unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - France
Email: seqrefégenoscope.cns.fr, Web : www.genoscope.cns.fr.
i.ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                      280
                                                                                                                                                                                                                                                                                                                             /tissue_type="neuroblastoma cells"
/tissue_type="neuroblastoma cells"
/lab_host="DH10B", Vector: pcNVSpORT 6; 1st strand cDNA
/note="organ: brain; Vector: pcNVSpORT 6; 1st strand cDNA
/note="organ: brain; Vector: pcNVSpORT 6; 1st stranded cDNA
/note="organ: brain; Vector: pcNVSpORT 6; 1st stranded cDNA was digested with Not I and
enriched, double-stranded cDNA was digested with Not I and
enriched into the Not I and Eco RV sites of the pcNVSpORT 6
cloned into the Not I and Eco RV sites of the pcNVSpORT 6
vector. Library was normalized. Library was constructed
vector. Library was normalized. Library was constructed
by Life Technologies. Contact : Feng Liang Life
by Life Technologies. a division of Invitrogen 9000 Medical Center
Technologies, a division of Invitrogen 900 Medical Center
Drive Rockville, Maryland 20850, USA Fax : (1) 301 610
8371 Email : fliang@lifetech.com URL :
http://fulliength.invitrogen.com"
http://fulliength.invitrogen.com"
9 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone="CSODD009YH19"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone_lib="LTI_NFL001_NBC4"
/sex="male"
                                                                                                                                                                 3.19e-88
809.00
83.01%
83.01%
91.31%
                                                                                                                                                                                   Length:
Matches:
Conservative:
Mismatches:
Indels:
```

ម	8	SOU SOU SOU	RES BJ0 LOC DEF ACC VER	Qy Db	Оу	QУ	ОУ	ОУ	Qу рь	QУ	Db dd	Qу	Db
ATURES sour	TITLE JOURNAL COMMENT	ORGANISM ORGANISM ORGANISM	RESULT 13 BJ073109 LOCUS DEFINITION ACCESSION VERSION	169 720	49	129 V 601 G	109 G 541 G	89 L 1 481 T	-	65 361 TA	61 Ly    301 AA	41 II    241 AI	181 GG
Fax: 81-559-81-6855  Email: tshini@qenes.nig.ac.jp. Location/Qualifiers 1642 1642 /organism="xenopus laevis" /ob_xref="taxon:835" /clone_xil08p0l" /clone_lib="NIBB Mochii normalized Xenopus tailbud library" /tissue_type="whole embryo" /tissue_type="stage 25"	xyressed genes in x. laevis embryo Expressed genes in x. laevis embryo Unpublished (2001) Contact: Tadasu Shin-i Contact: Tadasu Shin-i Center For Genetic Resource Information National Institute of Genetics National Institute of Genetics 1111 Yata, Mishima, Shizuoka 411-8540, Japan Tel: 81-559-81-6856		BJ073109 NIBB Mochil normalized Xenopus tailbud library Xenopus laevis CDNA clone XL108p01 5', mRNA sequence. BJ073109 OI:17503298	-GlyGlyGlyCysCys 173               GGTGGAGGTTGCTGC 735	ThralaGlyGlyAlaGluLySSerAsnValLySIleGlnSerThrProValLySGlnSer 168	Ala 14      GCA 65	Thrasn 12        ACGAAT 60	AAG 5	LysLeu 8	TACAGAGGAGCCCATGGCATCATAGTTGTGTATGATGTGACAGATCAGGAGTCCTTCAAT 420	SLeuGlnIle	heLysIleArgThrIleGluLeuAs:	N

```
ACCESSION
VERSION
KEYWORDS
                                                                            RESULT 1
BI684554
                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE CO
                                                                                                                                                                    멍
                                                                                                                                                                                                         В
                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                      γQ
                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                        δð
                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                         δð
                                                                                                                                                                                                                                                                                                                                                                                                            문
                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                  SOURCE
                                                            DEFINITION
                                                                                                      밁
                                                                                                                  δð
                                                                                                                                    В
                                                                                                                                                  δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-820-003A-2 (1-173) x
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match:
DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score
          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNT
                                                                                                      607
                                                                                                                                       550
                                                                                                                                                        152
                                                                                                                                                                         490
                                                                                                                                                                                         132
                                                                                                                                                                                                          430
                                                                                                                                                                                                                         112
                                                                                                                                                                                                                                          370
                                                                                                                                                                                                                                                                           310
                                                                                                                                                                                                                                                                                                                                                                              130
                                                                                                                      172
                                                                                                                                                                                                                                                                                                             250
                                                                                                                                                                                                                                                                                                                                             190
                                                                                                                                                                                                                                                          92
                                                                                                                                                                                                                                                                                           72
                                                                                                                                                                                                                                                                                                                             65
                                                                                                                                                                                                                                                                                                                                                             64
                                                                                                                                                                                                                                                                                                                                                                                              44
                                                                                                                                                                                                                                                                                                                                                                                                                                                10
                                                                                                                                                                                                                                                                                                                                                                                                              70
                                                                                                                                                                                                                                                                                                                                                                                                                               24
                                                                                                                                                                                                                                                                                                                                                                                                                                              GlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLeuLeuValGly
                                                                                                                                                                                                                                                                                                                                                                            GlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnSerGlyGlyGly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Scores:
                                                                                                                     CysCys
                                                                                                                                       GGTCAAGAGAAG---
                                                                                                                                                                                                                                                                          CAGTGGCTTCAGGAAATAGATCGTTATGCCAGTGAGAACGTTAACAAGTTATTGGTAGGC
                                                                                                                                                                                                                                                                                                            GCCCACGGCATCATTGTTGTATGACGTAACAGACCAGGAATCCTTCAACAATGTCAAG
                                                                                                                                                                                                                                                                                                                                            ATTTGGGACACTGCCGGCCAGGAAAGATTTCGAACCATTACATCAAGTTACTACAGGGGA
                                                                                                     TGCTGC
        Mus musculus
                                          BI684554 (603306931F1 NCI_CGAP_Mam6 mRNA sequence. BI684554
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                 BI684554.1 GI:15647170
                 nouse mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            212
                                                                                                                      173
                                                                                                     612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="Vector: pBSRN3; Site_1: Not1; Site_2: EcoR1; cDNAs were oligo-dT primed and directionally cloned. Staging according to Nieuwkoop and Faber. Library is subtracted and was constructed by N. Garrett and A.M. Zorn, (Wellcome/CRC Institute). "

137 c 150 g 142 t 1 others
                                                                                                                                                                                                                                                                                                                           -----GluSerPheAsnAsnValLys
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2.03e-88
808.50
81.68%
81.19%
91.25%
                                                                                                                                      AACGTCAAAATCCAGAGCACTCCAGTCAAGCAGTCTAGTGGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 вJ073109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (1-642)
                                                           Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                   đđ
                                                           musculus
                                                                    mRNA
                                                           CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  , 1642
1 164
4 33
                                                                  linear
                                                          clone
                                                          EST 18-SEP-2001
IMAGE:5343151 5',
                                                                                                                                      606
                                                                                                                                                       171
                                                                                                                                                                      549
                                                                                                                                                                                        151
                                                                                                                                                                                                         489
                                                                                                                                                                                                                        131
                                                                                                                                                                                                                                         429
                                                                                                                                                                                                                                                         111
                                                                                                                                                                                                                                                                         369
                                                                                                                                                                                                                                                                                         91
                                                                                                                                                                                                                                                                                                           309
                                                                                                                                                                                                                                                                                                                           71
                                                                                                                                                                                                                                                                                                                                                                             189
                                                                                                                                                                                                                                                                                                                                                                                             63
                                                                                                                                                                                                                                                                                                                                                                                                              129
                                                                                                                                                                                                                                                                                                                                                                                                                              43
                                                                                                                                                                                                                                                                                                                                           249
                                                                                                                                                                                                                                                                                                                                                                                                                                                69
                                                                                                                                                                                                                                                                                                                                                             64
```

```
REFERENCE
AUTHORS
TITLE
JOURNAL
Š
                                                    Ş
                                                                                                                                                                                                                                                                                             Qy
                             밁
                                                                                         В
                                                                                                                   δÃ
                                                                                                                                                   밁
                                                                                                                                                                            Qy
                                                                                                                                                                                                            В
                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                         ρ
                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match: DB:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-820-003A-2 (1-173) x BI684554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pred. No.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                         506
                                                                                                                                                   446
                                                                                                                                                                                                             386
                                                                                                                                                                                                                                                                        326
                                                                                                                                                                                                                                                                                                                                                                                         206
 108
                                                                                                                                                                                                                                                                                                                                 266
                                                        88
                                                                                                                      68
                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                  41
                                                                                                                                                                                65
                                                                                                                                                                                                                                                                                                                                                              21
                                                                                                                                                                                                                                                                                                                                                                                                                       ш
                             GlyValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyr
                                                                                                                                                                                                                                                                                                                                                                                                         MetSerSerMetAsnProGluTyrAspTyrLeuPheLysLeuLeuLeuIleGlyAspSer
sGluPheAlaAspSerLeuGlyIleProPheLeuGluThrSerAlaLysAsnAlaThrAs
                                                                                                                                                                                                                                      LysLeuGlnIle-----
                                                                                                                                                                                                                                                                                                                                                                                           ATGTCCAGCATGAATCCCGAATATGATTATTTCAAGTTACTTCTGATTGGCGATTCT
                                                                                                                      nAsnValLysGlnTrpLeuGlnGluIleAspArgTyrAlaSerGluAsnValAsnLysLe
                                                                                                                                                   TACAGAGGAGCCCCATGGCATCATAGTTGTGTATGATGACAGATCAGGAGTCCTTCAA
                                                                                                                                                                                                             AAGCTACAGATATGGGACACAGCAGGCCAGGCAAAGATTTCGAACAATCACTTCCAGTTAT
                                                                                                                                                                                                                                                                                                                                 GGGGTTGGAAAGTCCTGCCTTCTCCTTAGGTTTGCAGATGATACGTATACGGAAAGCTAC
                                                                                                                                                                                                                                                                      ATCAGCACAATTGGTGTGGATTTCAAGATACGAACTATAGAGTTAGATGGGAAAACAATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Jeffrey Green M.D.
cDNA Library Preparation: Life Technologies,
cDNA Library Arrayed by: The I.M.A.G.E. Conso
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NIH-MGC http://mgc.nci.nih.gov/
National Institutes of Health, N
Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Plate: LLAM11871 row: m column:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 found through the I.M.A.G.E. Consortium/LLNL
http://image.llnl.gov
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA Sequencing by: Incyte Genomics, Inc. Clone distribution: MGC clone distribution information can
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (bases 1 to 872)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    quality sequence stop: 802.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone="IMAGE:5343151"
/clone_lib="NCI_CGAP_Mam6"
/sex="female, virgin"
/tissue_type="infiltrating d
/dev_stage="5 months"
/lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note-*Organ: mammary; Vector: pCMV-SPORT6; Site_1: Sa
Site_2: NotI; Cloned unidirectionally. Primer: Oligo:
Library constructed by Life Technologies. Investigator
providing samples: Jeffrey Green, M.D., NIH"
184 c 246 g 207 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /strain="FVB/N"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4.94e-88
807.00
83.09%
83.09%
91.08%
13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  (1-872)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length:
Matches:
Conservative:
Mismatches:
Indels:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ductal carcinoma"
                                                                                                                                                                                -----GluSerPheAs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gies, Inc.
Consortium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                at:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Collection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Murinae; Mus
   128
                                                           108
                                                                                          565
                                                                                                                      88
                                                                                                                                                   505
                                                                                                                                                                                                             445
                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                              40
                                                                                                                                                                                                                                           64
                                                                                                                                                                                                                                                                        385
                                                                                                                                                                                                                                                                                                                                 325
                                                                                                                                                                                                                                                                                                                                                                                           265
                                                                                                                                                                                                                                                                                                                                                                                                                       20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SalI;
```

-

```
В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В1739625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                      US-09-820-003A-2 (1-173) x BI739625 (1-855)
                                                                                                                                                                                                       Percent Similarity:
Best Local Similarity:
                                                                                                                                                                                                                                                                      Alignment Scores:
Pred. No.:
                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
                                                                              δÃ
                                                                                                                                                                                  Query Match:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      168 SerGlyGlyGlyCys 172
||||||||||||||
806 TCAGGTGGAGGCTGC 820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                        21 GlyValGlyLysSerCysLeuLeuLeuArgPheAlaAspAspThrTyrThrGluSerTyr 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BI739625
B35 bp mRNA linear EST 20-SEP-2001
603361882F1 NIH_MGC_94 MUS musculus cDNA clone IMAGE:5368676 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: ogapbs remail.nih.gov
Tissue Procurement: The Cepko Laboratory
Tissue Procurement: The Cepko Laboratory
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
CDNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MCC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llh.gov
Plate: LLAM11938 row: d column: 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Eukaryota; Metazoa; Chordata; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 855)
1 (bases 1 to 855)
NIH-MGC http://mgc.nci.nih.gov/.
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA sequence.
BI739625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BI739625.1 GI:15716638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      house mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           High quality sequence stop:
                                                                                                                                                                                                                                                                                                                                               // Organism="Mus musculus"
//db_xref="taxon:10990"
//dlone='INAGE:5368765"
//clone='INAGE:5368765"
//clone=Lib="NIH_MGC_94"
//tissue_type="retina"
//tissue_type="retina"
//lab_bost="pHID8 (phage-resistant)"
//lab_bost="pHID8 (phage-resistant)"
//note="0rgan: eye; vector: pcMv-SpORT6; Site_1: NotI;
//note="0rgan: eye; vector: pcMv-SpORT6; Site_1: NotI;
//note="1cloned unidirectionally; oligo-dT primed.
Site_2: SalIr_Cloned unidirectionally; oligo-dT primed.
Average insert size 3.3 kb. Library enriched for
Average insert size 3.3 kb. Library enriched for
full-length clones and constructed by Life Technologies.
Note: this is a NIH_MCC_Library.

Note: this is a NIH_MCC_Library.

181 c 233 g 205 t 2 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                          6.36e-88
806.00
82.21%
81.25%
90.97%
                                                                                                                                                                      Length:
Matches:
Conservative:
Mismatches:
Indels:
Gaps:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                849.
```

```
δÃ
                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                      γç
                                                                                                                                                                                                                                                                                         B
                                                                                                                                            В
                                                                                                                                                              δõ
                                                                                                                                                                                Дb
                                                                                                                                                                                              QY
                                                                                                                                                                                                                   В
                                                                                      ρy
                                                                                                        B
                                                                                                                          Q
                                                                                                                                                                                                                                                                                          365 AAGCTAGAGATATGGGACACAGCAGGCCAGGAAAGATTTCGAACAATCACTTCCAGTTAT 424
                                                                                                                                                                                425 TACAGAGGAGCCCATGGCATCATAGTTGTGTATGATGATGACAGATCAGGAGTCCTTCAAT 484
                                                                    545 GTGGTAGGGAACAAATGTGACCTGACCACAAAGAAGTAGTAGACTACAACAACAGCAAAG 604
                                            148 laThrAlaGlyGlyAlaGluLysSerAsnValLysIleGlnSerThrProValLysGlnS 168
                                                                                                                                                                                                                                                                          61 LysLeuGlnIle-----
785 CAGGTTGGAGGCTGCTGC 802
               168 erGly-GlyGlyCysCys 173
                                 725 CTACAGCTGGTGGTGCCGAGAAGTCCAATGTTTAAATCCAGAGCACTCCAGTCAAGCAGT 784
                                                                                                                                                        89 LeuvalGlyAsnLysCysAspLeuThrThrLysLysvalvalAspTyrThrThrAlaLys 108
                                                                                                                                                                                                                                       65 -----GluSerPheAsn 68
```

Search completed: November 17, 2002, 14:30:41 Job time: 1964 secs

